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INDEX TO VOL. IX

15443.

☞The names of contributors are printed in small capitals; subjects treated, in ordinary type; titles of books reviewed, in *italics*

Academic Studies, 211
Age and Attainments for Professional Training, 209
Ancient Classics, 335, 499
Arnold's *Waymarks for Teachers*, 408
Arrowsmith and Whicher's *First Latin Readings*, 201
Art of Teaching, 227
Arts, Educational Value of the History of the Fine, 343
Association of Colleges and Preparatory Schools in the Middle States and Maryland, 96; in the North Central States, 526
Attainments for Professional Training, 209
Baker, James H.—The High-school Period, 472
Botany at the German Universities, 72
Bourne, Edward G. — Fiske's *History of the United States for Schools*, 514
Bronson, Thomas B.—Some Interesting Statistics, 87
Brown, Henry W.—Content and Form, 496
Browne, George H. — English, Educational Value of, 377
Buss, Miss, Death of, 207
Butler, Nicholas Murray.—Zimmern's *Methods of Education in the United States*, 88; Bramwell's *Training of Teachers in the United States of America*, 88; Burstall's *Education of Girls in the United States*, 88; Little's *Bowdoin College*, 1794–1894, 92; Birkbeck Hill's *Harvard College, by an Oxonian*, 405; Davidson's *Education of the Greek People*, 407; *Four American Universities*, 504; Hart's *Studies in American Education*, 506
Butts, W. H.—Uniform Standards in College Preparation, 148
Cameron, A. Guyot.—Herdler's *Scientific French Reader*, 512
Cattell, J. McK. — Wundt's *Human and Animal Psychology*, 507
Children, Study of, 214, 527
Choosing School Boards and School Superintendents in New York, Methods of, 188
Chrisman, Oscar. — One Year With a Little Girl, 52
Chronological Outlines of American History (Whitcomb's), 198
City School Systems, on the Organization of—Report of the Sub-Committee of Fifteen, 304
Classical Conference at Ann Arbor, The, 499
Classics, The Ancient, 335, 499
Cleveland Meeting of the Department of Superintendence, 104, 207, 422
Collar and Daniel's *First Latin Book*, 201
College Commencement, The, 427
Colleges and Preparatory Schools in the Middle States and Maryland, Association of, 96; in the North Central States, 526
Colleges, Football Madness in the, 100; Necessary Reforms in the, 10
College Preparation, Uniform Standards in, 148
College Requirements in English (Eaton's), 412
Commencement, The College, 427
Committee of Fifteen, Work of the, 102
Committee of Fifteen, Report of, 209, 418
Concentration, 27
Conditions for Professional Training—Age and Attainments, 209
Content and Form in Studies, 496
Correlation of Studies in Elementary Education—Report of the Sub-Committee of Fifteen, 230

Correlation of Science and History, 464
Correlation of Studies—Report of the Sub-Committee of Fifteen, 230; Logical Order of Topics and Branches, 230; Symmetrical Whole of Studies in the World of Human Learning, 230; Psychological Symmetry—the Whole Mind, 231; Correlation of Pupil's Course of Study with the World in which He Lives—His Spiritual and Natural Environment, 231; The Course of Study—Educational Values, 233; Language Studies, 234; Arithmetic, 242, 289; Geography, 248: History, 252: Other Branches, 257; The Difference between Elementary and Secondary Studies, 263; Correlation by Synthesis of Studies, 274; School Programme, 276; Amount of Time for Each Branch, 278; Methods and Organization, 285; History of the United States, 293; The Spelling-book, 293
Course, Length of Training-school, 220
Davidson's *Education of the Greek People*, 407
DAVIS, WILLIAM M.—Colonel Parker's Review of Frye's *Primary Geography*, 82
Death of Miss Buss, 207
De Garmo's *Herbart and the Hebartians*, 192
Denver Meeting of the N. E. A., 529
Department of Superintendence, Cleveland Meeting, 104, 423
Discussions, 82, 187, 496
DONALDSON, H. H.—Education of the Nervous System, 105
Dr. McCosh as a Teacher (with portrait), 122, 131
Duties, Powers and, of School Superintendents, 38
Eaton's *College Requirements in English*, 412
Economy, School, 216
Editorial, 96, 205, 418, 521
Education (Higher) of Women in the South, 187; History of, 216; Values in Secondary, 135
Education, The, of Girls in the United States (Burstall's), 88; *Education of the Greek People* (Davidson's), 407
Education of the Nervous System, 105
Educational Activity in Illinois, 205
Educational Aims and Educational Values, 323
Educational Journalism in the United States, 523
Educational Values, 135, 233, 323, 335, 343, 349, 359, 368, 377, 385
Elementary Education, Correlation of Studies in—Report of the Sub-Committee of Fifteen, 230
Elementary School, The Kindergarten and the, 172
Elementary and Secondary Studies, Difference Between, 263
Emerson's *History of the English Language*, 509
English, Educational Value of, 377
English, College Requirements in (Eaton's), 412
Fiction, Recent Text-books on, 478
Fine Arts, Educational Value of the History of the, 343
Fiske's (John) *History of the United States for Schools*, 514
FITCH, J. G.—The Religious Issue in the London Schools, 159
Football Madness in the Colleges, 100
Form and Content in Studies, 496
Four American Universities, 504
Geography as a School Subject, 448
German Universities, Botany at the 72; Philosophy and Education at the, 521
German Universities (Paulsen's), 400
Germany, The University Crisis in, 391
Girl, One Year with a Little, 52
Greek People, Education of the (Davidson's), 407
Greenwood, Superintendent J. M., Resignation of, as Treasurer of the N. E. A., 529
GOODWIN, WILLIAM W.—Educational Value of the Ancient Classics, 335
GORDY, J. P.—*Symbolic Education* (Blow's), 89
HAMILTON, S. M.—Dr. McCosh as a Teacher, 131
HANUS, PAUL H.—Educational Aims and Educational Values, 323
Harvard College, by an Oxonian (Birkbeck Hill's), 405
HART, ALBERT BUSHNELL.—Thomas's *History of the United States*, 199; *Studies in American Education*, 506

Herbart and the Herbartians (De Garmo's), 192
Herdler's *Scientific French Reader*, 512
Higher Education of Women in the South, 187
High-school Period, The, 472
Hill, Frank A. — Educational Value of Mathematics, 349
Hill's (Birkbeck) *Harvard College, by an Oxonian*, 405
Hinsdale, B. A. — De Garmo's *Herbart and the Herbartians*, 192
History and Science, Correlation of, 464
History of the English Language (Emerson's), 509
History of the United States for Schools (Fiske's), 514
History, 359; Of the Fine Arts, 343; *of the United States* (Thomas's), 199; of Education, 216; Educational Value of, 359.
Human and Animal Psychology (Wundt's), 507
Illinois, Educational Activity in, 205
Is Oxford a University? 485
Jackman, Wilbur S.—Correlation of Science and History, 464
Jacobs, Walter B.—Values in Secondary Education, 135
Jones, Richard.—Paulsen's *German Universities*, 400; Is Oxford a University? 485
Journalism, Educational, in the United States, 521
Kindergarten, Reform of the, 205
Kindergarten and the Elementary School, 172
Lane's (Superintendent) Report, 206
Languages, Educational Value of the Modern, 385
Latin at Sight (Post's), 93
Laurie, Prof. S. S. (with portrait), 1
Length of Training-school Course, 220
Little Girl, One Year With a, 52
London Schools, The Religious Issue in the, 159
Mathematics, Educational Value of, 349
Matthews, Brander.—Eaton's *College Requirements in English*, 412; Recent Text-books on Fiction, 478
McCosh (Dr.), as a Teacher, 122, 131
McMurry, Charles A.—Geography as a School Subject, 448
McMurry, Frank M.—Concentration, 27
Meissner's *Latin Phrase-book*, 201
Merrill, William A.—Collar and Daniel's *First Latin Book*; Arrowsmith and Whicher's *First Latin Readings*; Meissner's *Latin Phrase-book*, 201; Post's *Latin at Sight*, 93
Methods of Choosing School Boards and School Superintendents in New York, 188
Methods of Education in the United States (Zimmern's), 88
Methodology, 215
Military Instruction in Schools, 525
Minerva No. IV. (Trübner's), 197
Modern Languages, Educational Value of the, 385
Moore, R. W.—Trübner's *Minerva*, 197
Mowry, William A.—Powers and Duties of School Superintendents, 38
National Educational Association Meeting at Denver in 1895, 96, 529
Natural Science, Educational Value of, 368
N. E. A., The Denver Meeting of the, 96, 529
Necessary Reforms in the Colleges, 10
Nervous System, Education of the, 105
New Books, Notes on, 95, 203, 415, 517
New York City School Reform, 208
Norton, Charles Eliot.—Educational Value of the History of the Fine Arts, 343
Notes on New Books, 95, 203, 415, 517
One Year With a Little Girl, 52
Organization of City School Systems—Report of the Sub-Committee of Fifteen, 304
Ormond, A. T.—Dr. McCosh as a Teacher, 122
Oxford, Is It a University? 485
Parker's (Colonel), Review of Frye's *Primary Geography*, 82
Parsons, James Russell, Jr.—Methods of Choosing School Boards and School Superintendents in New York, 188
Paulsen's *German Universities*, 400
Peirce, George J.—Botany at the German Universities, 72

Portrait of Prof. S. S. Laurie, 1
Post-graduate Year in Pedagogical Training, 228
Powers and Duties of School Superintendents, 38
Practice School, 218
Professional Training, Conditions for—Age and Attainments, 209
Professional Work, 213
Psychology in the Training of the Teacher, 213
Questioning (Psychological) on the Social Sense, 527
RAMSAY, CHARLES C.—Necessary Reforms in the Colleges, 10
Recent Text-books on Fiction, 478
Religious Issue in the London Schools, 159
Reviews, 88, 192, 400, 501
Reform, New York City School, 102, 208
Reforms, Necessary, in the Colleges, 10; Of the Kindergarten, 205
REPORT OF THE COMMITTEE OF FIFTEEN, 209, 418
Reports, Some Interesting School, 421
RUSSELL, JAMES E.—The University Crisis in Germany, 391
SALMON, LUCY M.—The College Commencement, 427
SCHILLING, HUGO K.—Educational Value of the Modern Languages, 385
Science and History, Correlation of, 464
Scientific French Reader (Herdler's), 512
School Boards, Methods of Choosing, in New York, 188
School Economy, 216
School Reform in New York, 102, 208
School Reports, Some Interesting, 421
School Superintendents, Methods of Choosing, in New York, 188; Powers and Duties of, 38
Science, Educational Value of Natural, 368
Science of Teaching, 213, 226
Secondary Education, Values in, 135; Studies Suited for, 263
Secondary Schools, Training of Teachers for, 224
Social Sense, Psychological Questions on, 527
Standards in College Preparation, Uniform, 148
Statistics, Some Interesting, 87
STODDARD, FRANCIS H.—Emerson's *History of the English Language*, 509
Studies, Academic, 211; Difference Between Elementary and Secondary, 263
Study of Children, 214
Sub-Committee of the Committee of Fifteen—On the Organization of City School Systems, Andrew S. Draper (Chairman), Edwin P. Seaver, Albert G. Lane, Addison B. Poland, and W. B. Powell, 304
Sub-Committee of the Committee of Fifteen—On the Training of Teachers, Horace S. Tarbell (Chairman), Edward Brooks, Thomas M. Balliet, Newton C. Dougherty, and Oscar H. Cooper, 209
Sub-Committee of the Committee of Fifteen—On the Correlation of Studies in Elementary Education, William T. Harris (Chairman), James M. Greenwood, Charles B. Gilbert, Lewis H. Jones, and William H. Maxwell, 230
Superintendents, Methods of Choosing, in New York, 188
Superintendents, School, Powers and Duties of, 38
Symbolic Education (Blow's), 89
Teachers, Waymarks for (Arnold's), 408
Teaching, Science of, 213; Training in, 217, 226; Art of, 227
Tests of Success in teaching, 222
Thomas's *History of the United States*, 199
THOMPSON, ANNA BOYNTON.—Educational Value of History, 359
Training in Teaching, 217
Training of Teachers—Report of the Sub-Committee of the Committee of Fifteen, 209; Conditions for Professional Training—Age and Attainments, 209; Training Schools, 210; Academic Studies, 211; Professional Work, 212; Relative Time, 212; Science of Teaching—Psychology, 213, 226; Study of Children, 214; Methodology, 215; Training in Teaching, 217; The Practice School, 218; Length of Training-school Course, 220; Tests of Success, 222; For Elementary Schools, 224; Art of Teaching, 227; Post-graduate Year, 228.

Training Schools, 210; Length of Course, 220
Training, The, of Teachers in the United States of America (Bramwell and Hughes's), 88; For Secondary Schools, 224
TRENT, W. P.—Whitcomb's *Chronological Outlines of American Literature*, 198
Uniform Standards in College Preparation, 148
University, Is Oxford a? 485
University, Three Reports, 99
Universities, German, Botany at the, 72; Philosophy and Education at the, 521
University Crisis in Germany, 391
Values, in Secondary Education, 135; Educational, 233, 323, 335, 343, 349, 359, 368, 377, 385
VAN LIEW, C. C.—The Kindergarten and the Elementary School, 172
WATSON, FOSTER.—Prof. S. S. Laurie, 1
Waymarks for Teachers (Arnold's), 408
WEST, ANDREW F.—The Classical Conference at Ann Arbor, 499
Whitcomb's *Chronological Outlines of American Literature*, 198
WOODHULL, JOHN F.—Educational Value of Natural Science, 368
WOODWARD, MARY V.—Higher Education of Women in the South, 187
Women in the South, Higher Education of, 187
Wundt's *Human and Animal Psychology*, 507

EDUCATIONAL REVIEW

JANUARY, 1895

I

PROFESSOR S. S. LAURIE OF EDINBURGH

The readers of Professor Laurie's works will recognize one distinction between him and other British writers on education. He has a firmer grip of the idea of historic continuity. He is at home with Plato and Quintilian. He can live in their atmosphere serene without importing nineteenth century (shall I say it?) fogginess and smoke. Yet he can leave the mount of contemplation and descend from classical times into the monotonous valleys of the scholastic ages. He can ascend the hill on the other side, through the gentle slopes where lie the still places of the mediæval monasteries. Or he can wander, in the same ages, among the busier haunts of men and listen appreciatively to Abelard, Peter the Lombard, and John of Salisbury. Like a pioneer, with nimble though measured strides, he has mounted the peak on which Comenius placed himself, only to be reached by that toilsome road of 2271 folio pages of Latin, "good, bad, and indifferent." Not only can Professor Laurie thus walk the highroads and travel over the passes and through the valleys, taking the *détours* only to be contemplated by the hardiest of mountaineers, but he is also equally at home in his own country and in his own times. He is not only a pilgrim of the centuries; he is also a philosopher of to-day.

In a word, Professor Laurie is our furthest traveled Briton in the study of education. His interest in the intricate and toilsome details as well as in its larger aspects, in its connections with other branches of study, as well as the historic development—of which I have spoken—is encyclopedic. He is the Comenius of our generation.

Mr. Laurie was educated in the University of Edinburgh. On leaving the university, he spent several years as a tutor and in traveling. In 1855, at the age of twenty-five, he was appointed to the secretaryship of the Education Committee of the Church of Scotland, which at that time took up the returns of school instruction from all Scotland and supported voluntary schools over the whole country, to supplement the old parochial schools. The schools thus supported had to be visited and reported on by the secretary. In 1856, in addition to the work of this post, Mr. Laurie became Visitor of Schools to the Dick Bequest trustees.

The results which have been obtained from the skillful direction of the fund at the disposal of the trustees, under the suggestions of Professor Laurie, are so remarkable (I ought rather to say, unique) that it is well here to note the main features of the work. In 1828 James Dick, Esq., of London, bequeathed a capital sum, which in 1833 amounted to approaching £120,000. The income from this sum has varied from nearly £5500 down to about £3300 (after the payment of all expenses), according to the rise and fall of interest upon land securities in Scotland. This income has been expended, in accordance with Mr. Dick's will, in grants to "country parochial schoolmasters in the counties of Elgin or Moray, Banffshire, and Aberdeen." With a Scotchman's practical insight, Mr. Dick imposed the condition that sums granted from the Bequest were on no account to be devoted to relieving managers or directors of schools from their legal obligation to support parochial schoolmasters or to "diminish the extent of such support." He further required that while the common branches of education should be efficiently maintained, those country schoolmasters who actively engaged in the task of improving their own qualifications, and imparting higher instruction to their pupils, should be subsidized from the Bequest, in proportion to their efforts in the direction of the higher education. To best enable the trustees to form a judgment on the matter, he directed the appointment of a competent Visitor, whose services were to be remunerated from the Bequest, to make a report from time to time, with regard to the higher work of the parochial schools in the three counties of northeast Scotland. On that report the division of the available funds among the several schoolmasters was to be made.

The Bequest, therefore, is administered entirely apart from any government grant, or any locally raised funds. It does not interfere with the more elementary instruction. All it attempts is to encourage those elementary schoolmasters, who are enterprising enough not to be satisfied with the minimum which would keep them in their posts and satisfy the local managers, but to strive to improve their own qualifications and to provide higher instruction for those of their pupils who are qualified to benefit from it.

The idea is brilliant; but it makes great demands. It would only have arisen in a man of firm faith in the teachers. It allows no room for any contemptuous "only an elementary master." It emphasizes by action the glory of Mulcaster's noble pronouncement that in elementary teaching "the ground is great in laying out, not only for the matter which the child doth learn: which is very small in show though great for process: but also for the manner of handling his wit to hearten him for afterward, which is of great moment." It is worth while to say this, even if it be a digression, for had Mr. Dick been an ordinary rich man, he would have swelled out some university with a few more, or a many more bursaries. He did something better. The sureness of his touch shows him to have been an educationist. Sometime he will receive greater recognition than he has yet had. For his idea has been justified by a magnificent success.

I have said that such a scheme bespeaks faith in the race of elementary teachers. It assumed, if I may say so, higher faith still, in the possibility of finding a Visitor who should wisely advise the trustees as to the apportionment of the money.

Nothing, in reading the Dick Report, is more striking and delightful than the sentence, "The trustees have scarcely ever, if indeed ever, been involved in difficulties with the teachers." No testimony could be more eloquent as to the judgment and keen sense of justice in their Visitor.

The details of the *modus operandi* have been given by Professor Laurie in his *Report to the trustees of the Dick Bequest* (1890).[1] Anyone who has missed reading the report has omitted to acquaint himself with a remarkable document. On rising from its perusal, one feels that truth is stranger than fiction. It is a veritable educational romance. From a sum of, on the average, less than £5000 a year, in three counties, in the country parishes, a system of secondary education is being carried out, in what would elsewhere be called elementary schools, with thorough efficiency, and yet preserving the freedom of teacher and pupil. The instruction is open to all pupils desirous of availing themselves of it. A table shows that the percentage of the pupils in attendance studying advanced subjects increased between 1833 and 1883 as follows: In mathematics from 3.99 to 6.94; in Latin from 6.99 to 12.89; in Greek from 1.16 to 2.08; in French or German from 0.12 to 4.68. The district, be it remembered, is an outlying portion of Scotland; it does not include town schools. The occupation of the children's parents, in most cases, is either in the fields or on the seas. Such a result, on such a comparatively slight expenditure, is a triumph of which educational Scotland may well be proud. The effect does not end with the advanced subjects. The Blue Books of the Board of Education (now extinct) show that the Dick Bequest schools gained more *per head* for the elementary education from the Parliamentary grants than the rural schools in the rest of Scotland. In leaving the interesting subject of the Dick Bequest, it will be readily understood that Professor Laurie's report is a valuable piece of educational literature. I know nothing with which to compare it, except the classical *Report of an educational tour in Germany and parts of Great Britain and Ireland*, by Horace Mann (London, 1846).

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[1] Edinburgh: University Press.

In 1869 Mr. Laurie was requested to report on the endowed residential institutions of Scotland by the Merchant Company of Edinburgh and the Heriot's Hospital Governors. His reports were printed, and widely circulated. They led to the agitation for the reform of these institutions, which ended in the passage of the Act of 1872.

In 1872 an Act was passed appointing a Commission for inquiring into all Scottish educational endowments; Mr. Laurie was appointed secretary to the Commission, and during its existence had to extend his previous inquiries, frequently discharging the duties of Deputy Commissioner as well as those of Secretary. The report, with its valuable appendices, contains an account of the secondary education of Scotland at that time, which will be of value to the future historian. The recommendations of the report made by the Committee were drafted by the secretary. There then followed two Executive Commissions which carried out the recommendations of the report. When carried out, they met with general approval. It is clear that they were of a highly practical nature. They were, in fact, based on a thorough examination of the whole question. An impulse was thus given to secondary education in Scotland, on lines suggested by sound observation and practical insight.

Before the sitting of these Commissions Mr. Laurie had originated, and along with Sir Edward Colebrooke had organized, an association for the further reform of secondary education in Scotland. This association held meetings and published reports for several years. Its operations were suspended only when the Commission took up and recommended the objects for which it stood.

In 1876 the Act for reorganizing the system of parochial schools in Scotland having led to the abandonment of the voluntary schools, Mr. Laurie's work in connection with the Education Committee of the Church of Scotland was largely restricted to the superintendence of the Training Colleges in Edinburgh, Glasgow, and Aberdeen. A new Training College in Aberdeen, it may be added, was founded by the Committee at his instance and by his own personal labor.

It was in this year (1876) that the first University Chair in Great Britain in the theory, art, and history of education was established. To it Mr. Laurie was appointed. He has held the post till now, together with the Visitorship of the Dick Bequest, and the superintendence of the Church Training Colleges. His aim has throughout been to give substance and reality to the subject of education as an academic subject. A crowning triumph came when the recent Commission in Scottish universities included education as a graduating subject. Professor Laurie has also succeeded in founding a University Schoolmasters' Diploma for higher grade elementary and secondary schoolmasters. The example of his work at Edinburgh has led to the institution of lectureships in the Universities of Glasgow and Aberdeen. Nor is it improbable that his writings on the subject will in the end influence the English universities as they have, it is believed, led to the institution of similar chairs in America.

Professor Laurie wrote his first educational work for the primary schools—a series of reading books—sadly wanted, as old reports on primary schools show. They appeared in Constable's Series in 1861. In 1866 he wrote the era-marking *Primary instruction in relation to education, with appended model code for schools.* In republishing his model code in 1888, Professor Laurie said: "When this code first appeared some experienced educationalists regarded it as a 'pious' imagination, and smiled at my confidence in it." With justifiable pride, he could add: "More than one-half of it is already worked into the Scottish code." With that unshaken confidence in educational progress which has made his great educational labors possible, he declares: "The rest will be substantially adopted in due time."

Here should be mentioned one of Professor Laurie's essays of startling significance in an age of codes and calls for technical instruction in the school—the famous *Liberal education in the primary school.* If Mr. Laurie had written nothing else, he would have been a prophet among educationists. He there makes the bold claim for a "liberal" education for all.

"The primary school," he says, "even more than the secondary school, must be sacred to the humanistic in education."

Professor Laurie's volumes of educational essays are: *The training of the teacher*, and other educational papers, in 1882, and *Occasional addresses on educational subjects* in 1888. In 1892 *Teachers' guild addresses* appeared.

In 1886 Professor Laurie published *The rise and early constitution of universities with a survey of mediæval education.* This book consists of a course of lectures given in the University of Edinburgh. In 1892 the substance of his lectures on the theory of education was issued under the title of *The institutes of education.* In 1893 Professor Laurie's Cambridge University lectures were published: *Language and linguistic method in the school.* Here again he insists that "the center round which all education of a man must revolve is, in my opinion, a humanistic center." Then he restates "the case for language," and says "a word for words."

Lastly I mention *The educational life and writings of Comenius*, published in 1881. It may not be thought the most significant of Professor Laurie's works; it may be said not to be the most helpful for present-day needs, but it is of greater import than appears at first sight. It is of all our educational books of the English-speaking race, the one which best saves us from reproach in Germany and abroad. It is the most thorough piece of scholarship and research among English-speaking students of education of this generation. Professor Laurie's service to education in presenting us with the product of so much labor is incalculably great. It is not only a classical book with scholars in Comenius' own country. It is also a book which cannot be neglected by English university scholars. It is a work of historical and philosophical literature, and through it the aims of education, and the significance of the study of the works of educationists, begin to be seen by those who, in the first instance, are approachable in no other way.

In summing up Dr. Laurie's contributions to education, one characteristic especially occurs to me. It is the application of

Kant's maxim: "So act as to consider every man as an end in himself and never as a means only." Here so many educationists have tripped. In their continual regard for the children intrusted to the care of the teacher, the teacher himself has been lost sight of, as a human being. Alas! for the poor abstractions, or worse, machines that teachers would become if some had their way. Throughout Laurie's books one seems to hear the words: The work of teaching rightly prepared for, rightly carried out, is not merely the instruction of others; it is the building up of the teacher himself into a man; it is the utilizing of the contents of educational ideas, to the teacher's own ethical end. It is losing himself in his work, so as to find himself as a man. Its study supplies a controlling interest in life, which becomes a permanent source of happiness.

One passage in one of Laurie's lectures seems to me the highest pitch marked in contemporary educational enthusiasm. They are words which call for reference: "I say with confidence that, if a clever young graduate who has been teaching for a year or two without thinking much about the great question of education will shut himself up for a week with Nettleship's Essay,[3] he will come out into his school afterward (to use the phraseology in which our Calvinistic fathers brought us up) convicted, converted, regenerate, sanctified. A new sun will be shining by day, and a new moon by night. As a teacher he will live henceforth in the atmosphere breathed by the minor gods."[4]

Such an utterance has the almost irresistible effect of making a man feel education to be a gospel, and teaching, a mission.[5] It is the enthusiasm which was formerly attached to learning by the Revivers. The imparting of knowledge is treated as being as noble as the acquisition. When Colet wanted the usher for his school, the answer given to Erasmus' inquiries by the scholars at Cambridge was, Who would be a schoolmaster who could possibly get a living otherwise? Professor Laurie has the Renaissance fervor—and it is enlisted from his heart—on the part of the schoolmaster. The advances made in philosophy, in psychology, in ethics, in child-observation, have produced a human interest in education, which to him is as absorbing, as compelling, as letters were to the Revivers of learning.

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[3] In the volume, edited by Mr. Evelyn Abbott, called *Hellenica*. Mr. Nettleship's essay is on the Theory of Education in Plato.

[4] *Teachers' guild addresses*, p. 20.

[5] Of Henri Frédéric Amiel we are told: "He went to his (student's) desk as if to an altar." Vittorino da Feltre chose his pupils "reverently."

I have shown the practical nature of Professor Laurie's educational work. He himself has said: "Experience is nothing, often less than nothing: it is a mere opportunity for confirming bad habits of mind." Yes, assuredly, if there is no interpreter. No one could better than Dr. Laurie himself illustrate the fact of the enormous value of the highest philosophic and scientific discipline for educational use. It is this which makes experience available for use. His matured thinking has shown itself in his *Metaphysica nova et vetusta* and *Ethica, or the ethics of reason*, works which rank him high as an independent thinker in philosophy. This has added weight to his utterances, and has confirmed his strength, so that he has never lowered his high educational demands and standards, to sail with the popular breeze. It is a satisfaction of the highest kind to have among us, as our honored leader, a man who a quarter of a century ago advocated almost every single educational reform in Scotland which has become actual, and in the stout and eager fights for which he can justly say, *Quorum pars magna fui.*

FOSTER WATSON

UNIVERSITY COLLEGE OF WALES,
ABERYSTWTH

In this series of biographies of eminent educationists the following sketches, accompanied with portraits, have already appeared in the EDUCATIONAL REVIEW: Brother Azarias (December, 1893); Dr. J. G. Fitch (April, 1894); and Prof. Friedrich Paulsen (November, 1894).

II

SOME NECESSARY REFORMS IN THE COLLEGES

When the leading colleges have made improvements so important as to command wide and favorable attention, when the defects of secondary schools have become so apparent as to require careful investigation by a special commission of educators, it may seem strange that anyone should call attention to the need of reforms in the higher institutions of learning. Nevertheless, deeming additional improvements in the colleges necessary, I venture to make a few criticisms and suggestions which I think are neither unjustifiable nor untimely. Let me in advance, however, disclaim all motives of retaliation upon the Committee of Ten on secondary school studies for their able and comprehensive report, much of which I very heartily approve.

The adoption of either the group or the elective system by nearly all the colleges, as recognizing individual tastes and aptitudes, stimulating more genuine interest in study, and securing a more spontaneous and higher moral tone among the students and better teaching from the instructors; the extension and expansion of the laboratory and library methods of instruction, as fitting students for scholarly investigation or practical life; the abolition of compulsory attendance at religious exercises at many colleges, as developing greater religious sincerity and a deeper sense of personal responsibility; the relaxation of the old censorious college government, which tended to unfit young men to live and lead in a free country—all these and kindred reforms in our colleges are to be most warmly commended. They have not, however, reached a point where further improvement is impossible. It must not be understood that the defects in the colleges, to be pointed out, exist in them alone; they may still be found in many schools. On account, however, of the position of the former at the head of our system of general education, their weaknesses are especially conspicuous and detrimental. From the colleges much more may justly be expected than from the schools.

Were the defects to which I have alluded insignificant or of minor importance, little could be justly said; but they pertain to matters vital and fundamental. In the great awakening to the necessity of reform in the methods of administration and government, filled with the pervasive enthusiasm of the new scientific spirit and the interests of a larger intellectual life, college authorities in many instances have strangely overlooked, or if they have barely noticed, have regarded with indifference or contempt, a matter of supreme importance. I allude to the personal character and the professional qualifications of professors and instructors. By these I do not mean moral character in the commonly received sense, which is everywhere deemed essential in college officers; nor a thorough knowledge of the subject taught, which, after sound moral character, is confessedly the first prerequisite of the college professor. I mean, rather, the possession of all those subtile and indefinable qualities which make up personal fitness and special aptitude for teaching, and thorough acquaintance with the history and theory, and practiced skill in the art, of education. In the zeal for special research which (by sorry and injurious imitation of instruction in the university proper, wherein the students are mature and well disciplined) has become the ideal aim of much college instruction, it has come about that only the most brilliant scholars are chosen to be instructors, regardless of their lack of more strictly professional preparation and experience. As such instructors are usually promoted, this in turn has also become the ideal method of recruiting professorial ranks.

If anyone doubts the accuracy of the last statement, let him consider the following extract from an interesting article by Dr. George Santayana, upon the *Spirit and ideals of*

Harvard University, in the EDUCATIONAL REVIEW for April, 1894:

> The growth of the community and of the college in wealth and numbers has made an increased force of professors and instructors necessary. These men, generally students of high standing who after graduation have seen something of German universities, cannot conceive their function as did the worthy teacher of a hundred years ago. . . Some teachers of the old school naturally remain—teachers in whom the moral and personal relation to their pupils is still predominant, but the main concern of our typical young professor is not his pupils at all. It is his science. . . But, generally speaking, he wishes to be a scholar, and is a teacher only by accident, only because scholars are as yet supported by institutions whose primary object is the education of youth. The pupils whom he really welcomes are those who have chosen his own profession and can encourage him in his labors by their sympathy and collaboration.

In strong, but quite unconscious, corroboration of the foregoing extract, an advanced student at one of our leading colleges recently wrote me as follows: "I do not find any professors or instructors here who are anxious to give students any assistance, unless in the case now and then of a brilliant student. It is a fact that the most of the assistants and instructors are young men totally devoid of experience and of the desire to improve in teaching. They have no interest in men as such, and only use their instructorships as a temporary means of support, the tasks of which they are glad to shirk on the slightest pretext. The professors also, as a class, have no interest in men, or in causing students to progress. They are interested only in their subjects, and regard instructing as an inconvenient and disagreeable concomitant by which they get their support. I find, moreover, so much mental vanity here: vanity of scholarship, a vanity that is pitiable, the more so as it is exhibited in a quarter where one least expects it."

The attitude of professors, of the type Dr. Santayana has described, toward associates of what I deem a better type, is very clearly disclosed by such remarks as the following. A prominent professor in one of the foremost American colleges, speaking of a distinguished colleague, recently said to an acquaintance: "Oh, he's nothing but a teacher!" Under similar circumstances, a professor in another well-known college, was overheard to use nearly the same language, referring to a colleague whose name is almost a household word among teachers and scholars: "He's a mere teacher." So far had these eminent gentlemen adopted the view that scholarship and enthusiasm for research are the supreme essentials to success and superiority as professors that they could employ the unwarranted assumption not only without attempt at proof but in terms of sincere contempt for eminent colleagues. Could the speakers know the frequent comparisons, highly unfavorable to themselves, made by some of the best students of their respective colleges, between them and the colleagues they tried to belittle, they might be greatly surprised and chagrined. They would hear such remarks as these: "Though he thoroughly knows his subject, his instruction is about as clear as mud; with him everything is 'perfectly obvious,' but to us his attempts at exposition are positively confusing; he thinks only of his subject, never of his students; he is cold, unsympathetic, unapproachable. I want to know the nature of this requirement for to-morrow, but if I ask him he will either show impatience at my ignorance or temerity, or misconstrue the motive of my inquiry, or stand upon his pedestal of superior knowledge. But with Professor —— we make headway; he seems anxious and able to make everything clear; he puts himself in his pupil's place; he is always willing to remain after the lecture to answer questions or discuss debatable points."

It may be said that such cases as the foregoing are purely exceptional and due merely to the temperaments of the particular professors criticised. I reply, first, that this may be true; but that it is a pernicious system which not only permits but encourages the existence of a large number of professors of precisely such temperament. Secondly, in colleges in which I have been an instructor, and notably in two prominent colleges in which I have been a student, it was a common though confidential complaint by many of the best students that the really good teachers among the professors were rather the exception than the rule; and such is, I think, still true in not a few colleges. Because, in great measure, these complaints are eminently just, I feel that the time has come when they should have greater publicity.

As just suggested, there is in many of our best colleges a great deal of indifferent, and considerable very poor, instruction. In view of the open confession of Dr. Santayana, who is himself an instructor in Harvard, from whose article I have already quoted, and from the ideals disclosed by the remarks of the two professors alluded to, what better state of things can be expected? Although primarily, or in many cases expressly, employed to instruct, they are teachers "only by accident!" A teacher by accident, I fear, often proves to be no teacher at all. Professional teachers have justly complained that young men have adopted school-teaching as a convenient stepping-stone to some other occupation; that young women have taught merely as a means of earning money to buy a wedding outfit. But, except in degree, how does their case differ from that of the men who wish to be scholars and are teachers "only because scholars are supported by institutions whose primary object is the education of youth?" Alas, I fear they do not often earn such support by good teaching! I am glad, however, to be able to say, from personal knowledge, that Harvard College has its full share of professors who are no less scholarly because they are among the most brilliant of the comparatively few really excellent teachers in American colleges. To them I and many others among their former pupils are inexpressibly indebted for knowledge and training and for ideals of the highest order.

The modern university is a vast laboratory, or congeries of laboratories, for the training of specialists and devotees of original research; and too much cannot be done for the equipment and support of such institutions. Talent is certainly one of the most precious of a nation's treasures; for chiefly by its power of production and discovery is civilization advanced. The modern conception of a university is largely in the direction of selecting, separating, and stimulating the best men—the separation of talent from mediocrity both among students and instructors. It may be conceded that this is properly the paramount purpose of the university; but I contend that it is not properly the paramount purpose of the college or the undergraduate department of a university. College professors and instructors are too often lured from their legitimate business by the dazzling picture of university work, which cannot properly be done where the conditions of the real university do not exist, or, with ordinary undergraduate students, even where the other conditions do exist. But college instructors need not belittle their legitimate work, or in any way regard it as inferior or unimportant in comparison with that of university instructors. Doubtless the passion for new knowledge is one of the finest emotions, and the ability to discover it one of the highest powers, of the soul; but there is another passion and another variety of talent which to me seem quite as exalted: the passion and power of development from relative ignorance and intellectual narrowness to well-rounded intelligence and liberal culture. Intellectual *birth* and *growth* are of quite as much interest and importance as intellectual *maturity*. The passage of a mind from darkness to light, from a narrow point of view to a broad outlook upon the world, from mental slavery to intellectual freedom—such is certainly an event than which none is more to be desired or more momentous in a human life. Upon the threshold of the intellectual life, groveling indifference gives place to thoughtful purpose, passive content yields to earnest aspiration, sensation is replaced by idea. Such is the problem and the purpose of most of the education below the university grade. Surely, the ministry of the educator of the mass of students is quite as useful and noble as that of the educator of specialists.

It is obvious that the greater part of the instruction in every college must, of necessity, be addressed to a large body of young students, freshmen and sophomores, who are intellectually unable either to understand or appreciate the abstruse, and often confusing, expositions by professors who *know* but cannot *teach*. Many of the juniors and seniors whom they instruct wish only mental discipline and liberal culture either as a preparation for practical life or the study of a profession. In college the method of imparting knowledge by lectures has certain advantages in the instruction of large classes; and in connection with the library, the laboratory, and the requirement of special reports and theses as auxiliaries, it is a valuable means of imparting both knowledge and discipline; yet, if we may judge the lecture-system by its actual results in the instruction of many fairly well prepared college students, its utility may be doubted. It is best suited to well-trained and clever students, who would learn perhaps by any method of tuition; but, at best, it is liable to great waste of energy and effort upon the part of the instructor, as is the case of so much of the discourse from pulpit to pews, not always because of mental or moral incapacity in the hearers, but because in the nature of the situation they are never required to elaborate and return to the preacher what they have received from him. True teaching, whether in school or college, is the process of "causing another to know" through self-activity, and "includes the mutual effort of two persons to the same end," the teacher and the learner. "Until the two are at this common work the process of teaching has not begun; until the learner has learned, the teacher has not taught." "And let it be remembered that the proof of the teaching process always rests with the learner; not with the teacher, whether the scholars be young or old." "The teacher can prove that he *tried* to teach; the scholar alone can show that the teacher *succeeded*."[1] "The measure of information," said Pestalozzi, "is not what the teacher can give, but what the pupil can receive." These fundamental principles of all good teaching are as applicable to collegiate as to elementary and secondary instruction.

Though an extreme view, there is some force in the saying of Dr. Johnson: "When all can read and books are plentiful, lectures are unnecessary." While recognizing the element of truth in this estimate of the lecture system, I cannot accept it, however, as entirely correct; for it must not be forgotten that often the living speaker is better than the dead book, and that many are aroused and stimulated by lectures who would never, but for them, begin the investigation of any subject. Many excellent college students, however, complain that what the lecturer says has been much better said, either by the lecturer himself or by someone else, in a book in the library, in which he can read with the freedom of distributing his time upon the various topics in the lesson according to his own peculiar difficulties of comprehension and degree of ignorance of the subject. Not a few college students, moreover, have been known to approve the sentiment expressed by a mature and clever undergraduate, in speaking of the lectures of several of his instructors: "I find their scholarship is largely second-hand, like that of the rest of us mortals; but this might be more easily overlooked, did they not continually strain to convince us that they have done very important original work."

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[1] H. Clay Trumbull, *Teaching and teachers*, Philadelphia, 1885, pp. 28, 32, 34

Whatever the method, however—whether by the lesson, lecture, or seminary system—the teaching should be clear, thorough, and interesting to a good majority of the students. In the undergraduate department the instruction, moreover, should have quite as much reference to the students as to the subject. Many college instructors do not seem to hold themselves in the least responsible for securing adequate results through their teaching. They are too prone to throw all the blame for student's failures upon the students themselves, instead of criticising their own method and manner. This is a very natural consequence of the theory expressed by Dr. Santayana, wherein the professor does not exist for the student but "the pupils whom he really welcomes are those who have chosen his own profession and can encourage him in his labors by their sympathy and collaboration"; all of which is well enough in the university proper, in which the relation of the professors to their pupils is very much the same as the relation of professors and pupils in medical, law, and divinity schools. By whatever method he employs, I repeat, the college instructor no less than the high-school teacher is bound to do well the chief thing for which he is employed; and by his success or failure in accomplishing this must he be judged. It is highly desirable, perhaps necessary, that the college professor should be not only a specialist in his chosen field but also an original contributor to its storehouse of truth; but it is not desirable or even necessary that all such specialists and original investigators should teach. This depends upon their fitness for this important service. There are periodicals devoted to their special departments in which they can publish the results of their labors. It does not follow that, regardless of their aptitude to teach, they must inflict themselves upon a body of students.

I would not say, even by implication, that no college should retain in its corps of instructors distinguished specialists who are not good teachers. Whether desirable or undesirable, the employment of such instructors is inevitable on account of the dearth of really good teachers. They can direct the studies of graduate and other advanced students, and in this way may render their college valuable service; and by their own researches they may, moreover, confer great honor upon it. But wherever possible, the professor celebrated both as a specialist and as a teacher should be sought. The high qualifications of both are sometimes, though rarely, found in conjunction. When, however, the specialist occupies the seat of honor in a college and speaks of the good instructors in terms of contempt, decided objection may justly be raised. No college anxious for its future, or desirous of rendering high service to the world, can afford to set aside its great teachers whether great specialists or not.

The need of something more than learning in the equipment of a good instructor, Chancellor W. H. Payne has clearly explained as follows:

> In the matter of general scholarship, lawyers, doctors, and clergymen are simply on a par with the well-educated of every class; they belong to the genus scholar and are defined by adding a specific difference. This specific difference is the peculiar [professional] knowledge I have mentioned. To make my meaning clearer, let me illustrate: a square is a *rectangle*; and we define a square by adding to the conception *rectangle* the specific difference *equilateral*, and say a square is an equilateral rectangle. And so

a physician is a scholar and something more; more, by that special body of knowledge which is required for his specific duties. To see how necessary this item is to the very existence of the professions, [including teaching], let us imagine all men to have the knowledge now required of the physician. Then, at a single stroke, the line between professional and non-professional would disappear. That is, the specific difference between genus and species would disappear; the species would be absorbed in the genus.[2]

Lest the views I have expressed may be regarded as antagonistic to those lately advanced by the distinguished president[3] of one of our younger universities, in recent issues of a leading magazine, in articles upon the best university methods, I would say that he has treated the work not of the college but only of the university proper. I venture to suggest, however, that in his enthusiasm for the exclusive adoption in the university of the method of research, he has cast too many unintentional reflections upon methods, excellent, proper, and necessary in secondary schools and colleges. He often speaks of them in such terms of contempt as to lead many worthy, but susceptible, instructors to feel that they must reject such methods and adopt advanced university methods in their own instruction—always a fatal mistake. Sometimes, it seems to me, he characterizes all education lower than that which he is administering as quite puerile and inferior, to be barely tolerated at best as a disagreeable necessity and an unspeakable drudgery. At other times, he seems to regard elementary and secondary education as not even necessary, but altogether useless or injurious. Such expressions, let us trust, may be but exaggerations of a very praiseworthy and able advocacy of better methods of training specialists, by a man who sees in his theme the only important subject in the whole range of pedagogics, rather than the language of his profound convictions upon collegiate and secondary education. His attention and that of all who sympathize with his views upon the highest education, I would respectfully call to a few important facts: The highest is reached only through the lower; there is a capitalization of knowledge, quite as much as of material wealth, which must be assimilated and mastered, at least in part, before blazing out a new path in the field of knowledge; the new rests upon the old, the present upon the past, the future upon the present and the past; what were original investigation worth, except to the investigator, if no one else studied its results, or if it should lead nowhere? Much ingenuity, originality, and profound interest are connected with the skillful teaching of old truths; much mental power is generated in making new application of such truths or inferring conclusions from them. On the other hand, the problems set for original research by young college professors, aping university methods, are often useless and absurd, resulting at best in mere mechanical effort quite unfruitful either in knowledge or power.

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[2] *Contributions to the science of education*, New York, 1886, p. 220.

[3] G. Stanley Hall, in *The Forum*.

Let me glance briefly at some of the more important qualifications of the good instructor of whatever grade of school. First, "the true teacher ought to be drawn toward the profession by natural inclination, by a conviction of personal fitness, and by a wish to dedicate himself and the best powers and faculties he has to this particular form of service."[4] If this be true, and who can doubt it, where is to be found a place for the man who "is a teacher only by accident"? Such qualification and others to be named, moreover, do not necessarily preclude great devotion to a special field of learning; if, in any case, it should appear otherwise, the person is to that extent unfitted to occupy a professor's chair.

Secondly, next after native endowments, and natural fitness, must be placed a knowledge of the history, theory, and art of teaching. With much wisdom, the leading universities are establishing, though tardily, chairs of pedagogics. Historically, the chief function of a university was to teach, and to supply the world with its teachers. "The very title Doctor, which marks the highest academic distinction in each of the faculties of Law, Divinity, and Physic, implies that the holder is qualified to teach the art which he knows."[5] Though, in these later times, universities must also provide preparation for other pursuits than teaching, yet surely it is still very fitting that a great university, the treasure-house of all the liberal arts, should provide instruction in the highest of them all. But, if she makes such provision, it goes without saying that her own instructors should themselves finely illustrate in their own work the principles of this art. The possession of such knowledge, and skill in its application, would greatly improve much teaching now attempted in our colleges; for "down very deep at the root of all our successes and failures [as instructors], there lie some philosophic truths—it may be of ethics, or of psychology, or of physiology—which we have either heeded or disregarded, and the full recognition of which is needed to make us perfect teachers." [6] It is true, moreover, that a thorough acquaintance with the history of education, elementary, secondary, and higher, would effectually prevent the recurrence of many errors in practice which still exist in the colleges. It is to be hoped that the time may soon come when every professor of mathematics, or of physics, or of Anglo-Saxon, shall know enough of psychology and logic and of educational theory and history to teach his special branch.

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[4] J. G. Fitch, *Lectures on teaching*, New York, 1885, p. 35.
[5] Ibid., p. 18.

Thirdly, college instructors should have experience both of practical life in the world, and, as a rule, as teachers in secondary and even in grammar schools. As a man is much more than his trade, so is the professor much more than his speciality; yet it may be safely said that specialists who have not been overmastered by their specialties are very rare. The scholar who would become a good professor must have time and opportunity to react upon his knowledge. This cannot be done properly within cloistered walls. The method of choosing instructors, however, to which reference has been made, not only ignores the value of such experience but renders its acquirement in most cases practically impossible. It may not be generally known how unique is the life of many students at our best colleges. While there they live in the midst of a community of select youth, in dormitories or clubhouses, rather than in families, and in the nature of the circumstances are protected from much of the wear and tear of life in the outer world.

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[6] Ibid., p. 21.

Under these conditions of seclusion, the cleverest student is necessarily somewhat callow. Yet such students, often without a day of association with men of affairs, become college instructors and later full professors. A mature student who has had experience as a teacher, and who through joy and sorrow knows something of the realities of life, often sees much in the teaching of his college instructors that tends to confuse many students, and much in their method and manner of dealing with their pupils that weakens the confidence of the latter both in themselves and their teachers; most of which, he feels, could be remedied by instructors of wider general and professional experience. If intelligent men in every community, and certain literary men of no mean reputation, who either seriously doubt or openly deny the benefits of a college education, have any ground for their unfavorable opinion, it must surely lie in the defect now under consideration. If a young man of talent and character cannot find the best opportunity in a college for the growth and development of his powers, certainly something in the methods of instruction or administration must be wrong. Instructors who are both theoretically and practically acquainted with the principles of their art, with the essential facts of human nature, and with the various conditions of human life in the world in which their pupils must live after passing from academic halls—such instructors can hardly fail, by the use of natural and wholesome methods of teaching and discipline, to aid the sound development of the mental and moral powers of their pupils.

However fondly some instructors may desire it, the separation of the scholar from the man, in case either of instructors or students, is impossible. Such an attempt can be properly characterized only as specialization run wild. The cleverest youth, thank fortune, is not all intellect. It is an exploded psychology which taught the division of the human mind into distinct "faculties." The mind is a unit, acting—often simultaneously—in several ways. Knowing, feeling, and willing are but different states of the soul. While for purposes of scientific study, they may be thought of in logical sequence, they are not dissociated in the mental life. The sensibilities and the will of the brightest student play a very important part in his life during the period of acquisition, and will play a yet greater part in his future career during the period of application.

"The human needs crave to be satisfied even more than the professional." Contrary to the opinion of many persons, it is a significant fact that after the age of admission to college the characters of most youth, even from the best families, are yet unformed. Many are the instances which may be cited wherein young men and women, well along in their teens, have made wide departures from the habits and beliefs in which they had been faithfully trained, and in which they had seemed to be thoroughly content and firmly fixed. The college, moreover, that ignores this fact, and the instructor who withdraws himself into a shell of officialism and concerns himself exclusively with his science, make a terrible mistake. The personal relations of the college instructor to his pupils are of even more value to them than are his professional relations As he cannot safely neglect his own moral and spiritual needs, so he cannot safely neglect those of his pupils. From this, it by no means follows that the college must make the characters of its students for them. Experience proves that such an attempt is worse than useless; but college officers may greatly aid students in their efforts to form their own characters aright. For this important work the college instructor, no less than the school-teacher, will find cheerfulness, patience, discrimination, and sympathy indispensable. If it be said that such assertions are but trite moralizing, it may be freely admitted; but to this admission, it must be added that frequent observation of the absence of the qualities named suggests the importance of frequent repetition of such truisms.

Since it is not the purpose of this article to consider the details of college methods and machinery, I will but briefly advert to one or two matters which deserve more extended discussion than space now permits. Though the colleges have made as much progress as the schools in mitigating the evils of examinations, they have not been distinctive leaders in this reform. At our prominent colleges there is yet too much anxiety, competition, and study for mere "marks"; but when many instructors measure their pupils by a single standard, namely, their position in the rank-list, in all candor, can it be expected that the pupils themselves will do any better?

"Nevertheless we have to postulate here that there are certain very valuable qualities which are not revealed in a written examination, and which the habit of exclusively relying on such examination does not encourage. Except in so far as diligence and obedience are concerned, examinations do little to test moral qualities, or active power. They do not tell you whether the action of the mind has been rapid or sluggish, nor how far the pupil has been influenced by a sense of duty or by strong interest in his work. Still less do they help you to gauge those attributes on which success and honor in life so much depend; sympathy with human beings, deference for superiors, the power of working with and influencing others; address, flexibility, manner. Let us once for all acknowledge that either for educational purposes, or for testing and selection, with a view to the requirements of a university or of the public service, the best examinations do not test the whole man, but leave some important elements of character to be ascertained by other means; and we have still to ask, within what limits examinations are valuable, and how we can get the maximum of good out of them. If we get at wrong results by trusting to examinations, it is not because examinations are misleading or inequitable, but because we use them too exclusively, and do not also make a due use of other means of judging."[7]

A man is more than his marks. Emerson, Holmes, and Lowell have conferred far more honor upon their *alma mater* by their manhood, genius, and general influence for good over their fellow-men than by their rank in scholarship when students. I do not mean, however, to underrate the importance of faithful study and good scholarship among college students, but rather to condemn it as an exclusive mark of worth. In true manhood, there is something too subtile for definition; yet it is so real that we instinctively recognize its existence and power wherever manifest. To throw upon heredity, the home, society, the church, and the school, the entire responsibility for its culture is too often the tendency of college authorities; but it is pernicious. For the development of manhood, there is not yet in many colleges sufficient provision, nor is its importance yet sufficiently recognized by college instructors, whose highest aim should always be to make both scholarly men and manly scholars. Though I am not prepared wholly to condemn the principle of Longfellow's *Excelsior*, I am free to say that it is beset with many practical difficulties. So clear is it that emulation may easily be carried too far, and that strife for mere marks is subversive of all worthy aims in education, that illustration and demonstration are needless. It is to be hoped that further measures may soon be devised by which examining, coaching, and overstrain at college examinations may be greatly diminished.

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[7] J. G. Fitch, op. cit., pp. 167, 168.

To speak of another detail, which though somewhat mechanical is yet of great importance: It is clear that college instructors often assign much more work to be prepared in a given subject, more theses or special reports to be written, within a stated time, than can be thoroughly done by the average student. What is to be thought, for example, of the judgment of an instructor of a class of beginners in French who assigns eight pages to be translated the second day and fifteen more the third? Whether it is done, in vulgar phrase, for mere "bluff," or for some better reason, the effect is the same: the conscientious student becomes confused and discouraged; finding it impossible to do all the work well, he soon falls into the habit of systematically slighting it. It is an elementary principle of good teaching that students must have time and opportunity to digest and assimilate what they have learned. Learning cannot be transmuted into power, the true purpose of education, except the student react upon his knowledge, no longer holding it in mere mental solution.

In a large college, especially if it offers many elective studies, it is generally thought that the intellectual and moral interests of students become so diversified as to lose every common element. But such is not the case. For lack of more systematic and intelligent guidance, students in large colleges often waste much energy through errors in the selection of courses and improper methods of study. They often squander much time in social and other matters of secondary importance, for lack of friendly direction and counsel. For the same reason, students do not always take proper care of their health. It is possible, without paternalism in administration, to do much to remedy these evils. Besides constant personal influence upon the part of instructors, an annual series of lectures or conferences might very profitably be given upon personal ethics, personal hygiene, ideals of culture and utility in education, education values, the business of the student, and kindred topics.

In conclusion, I repeat that although the colleges have made much progress they may make much more; and, in the foregoing paragraphs, I have pointed out the directions in which I think some important improvements lie. Only instructors of thorough scholastic and professional preparation, who have had considerable experience in teaching and in practical affairs, should be employed. When such instructors have been employed, they should not regard it a condescension or drudgery to teach, guide, and influence their pupils in the ways of truth and wisdom, but should enter more fully into their daily lives and into the larger life of the college.

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III

CONCENTRATION

The principle of apperception declares that what one can know and feel and will depends upon what he has already known and felt and willed, that past experiences are the sole foundation for new knowledge, and that good teaching consists in a careful fitting of new ideas to this foundation so that they will rest firmly upon it.

The first requisite in order that this fitting process may be effective is that the subject-matter of instruction be by nature adapted to the child. There is probably a period in each person's life when every book, indeed every thought, can be most highly appreciated. If we could only discover and take advantage of this most opportune moment for offering every bit of knowledge, what a wonderful economy of effort would result! Possibly such instruction might prove too good by tending to set children's brains too much on fire. The theory of the Culture-epochs, *i. e.*, that the child passes through the same general stages of development through which the race passes, is influencing teachers to select courses of study with special reference to the fitness of their subject-matter for certain stages of child growth. If the development of the race is in general like that of the child, what has specially interested the former at a certain age will appeal with most force to the latter at the corresponding age; consequently that is what should be given him. By this arrangement the content of each study can be fitted more closely than otherwise to the child's past experiences and become more fully a part of him. That means that a high degree of apperception will be secured; the theory of the Culture-epochs is, therefore, only a subdivision of the very broad principle of apperception.

But even when the subject-matter of the studies has been chosen with most careful reference to the Culture-epoch idea, and can be taught according to the most excellent method, provision for the highest possible degree of apperception is still incomplete. The trouble is that the different branches may remain unrelated to one another in the child's mind; and they usually do, even in our good schools. Many a pupil fails entirely to associate Spain and Genoa, when studied in geography, with the Columbus talked about in history; or a poem in literature referring to the Rhine river, with the Rhine river studied in geography. Many a boy even fails to associate facts on the same topic, if learned at different places or at different times. I have found high-school pupils frequently who did not know for certain whether the Palestine of the ancient history was the Palestine of the Sunday School or not, or to whom it had never once occurred that the Sea of Galilee of the school geography was the Sea of Galilee of the Sunday School. They often get substantially the same thoughts in two different places without ever realizing that they are the same. But full apperception, or a full appreciation of facts, requires that the relationship between them be seen. The topic which deals with this matter is often called *concentration;* it is evident that it, like the Culture-epoch idea, is only a subdivision of apperception.

The principle of concentration makes the demand that the numerous parts of the course of study be closely associated, so that the light they cast upon one another may lead to fuller knowledge. In times past good teachers have thought little about this point. They have been inclined to feel that their whole duty in instruction was performed when they had succeeded in fixing thoughts clearly and accurately in pupils' minds. But one of the greatest advances that recent pedagogy is effecting is the conviction that, when so much is accomplished, the work of instruction is only half finished. Recent pedagogy declares that the *number* and *closeness* of relations into which an idea enters are as important as the vividness and accuracy with which it is conceived: hence the relationship among facts is becoming a separate and a great topic in school-work, and in all teaching.

The principle is having a marked influence upon the individual recitation. It requires that any fact that is taught shall pave the way for what follows, in order that all may be tied together. There should be no careless springing about from point to point, but on the contrary there must be such a careful leading up to each thought that the pupil can at least dimly anticipate what is coming. Isolated, irrelevant matter is, therefore, ruled out. There is little use for "general exercises," or for "information lessons," or for such a book as John Trainer's *One thousand questions in American history* (much used in Illinois), or for common reading-books when the points introduced in them have no direct bearing upon the interests and occupations of the pupils. Each recitation hour should present a section of a continued story, and should afford a training to the child in *connected* thinking.

As usually interpreted, however, the principle of concentration refers particularly to the establishment, in the child's mind, of a close relation among the several studies, rather than to the relation among the parts of a single study. There are few ideas that appeal so forcibly to teachers as does this one of relating the different branches, and many of them are making earnest attempts in this direction. But discouragement is very frequently the final outcome, for the efforts put forth only serve to show what an enormous undertaking it is. It will be many a year, probably many a decade, before a majority of our teachers will apply this principle to their courses of study in a systematic way; many a time teachers will halt and inquire whether or not it is worth the effort. The encouraging answer can come only from a well-developed theory on the subject; definite reasons for attempting concentration must be firmly established and learned by heart, before sufficient energy will be generated for the task at hand. It is especially with the desire of stating these reasons that this paper is written.

The primary motive for concentration is strong character. Strong character, or firm and consistent conduct, can come only through the unity of one's personality, or through the unity of one's historical ego. If his historical ego, or the series of events that have made up his psychic life, consists of a long list of loosely related experiences, he cannot be said to have complete unity of personality; it is at least partially divided. What is meant by such partial division is made clear by examples of extreme division of personality, as seen in the phenomena of double consciousness. These phenomena are typified in the extremely interesting story of *Dr. Jekyll and Mr. Hyde.* In such cases there is so complete a discontinuity between two periods of psychic life that a man at one time imagines himself to be one person, at another time a person wholly different. The memory fails utterly to associate the two. The result is that any harmony between the two is entirely a matter of accident; hence character is shattered: what a man at one time admires and practices he at a different time hates and repudiates, so that consistency and firmness of conduct are lost. Such cases are abnormal and the persons are said to be unbalanced. But it should be remembered that while most people do not suffer from this evil to that extent, they all suffer from it to some extent. That is, the psychic states of each of us are often somewhat disconnected; we are none of us perfectly balanced. We admit this when we speak of the two *mes* within our breasts, the good and the bad self. But, as Ribot states, there are not only *two* mes, but many of them, and there is the danger ever present that now one may predominate, then another. By the good me is meant the group of good thoughts that tend to guide us; by the bad me, the group of evil thoughts; and by the several mes, or selves, is meant simply the several groups of ideas that take partial or complete control of us. Experience teaches that we are not controlled by a will that is absolutely independent of everything. Were that the case, education would be impossible. It teaches on the contrary that the various spheres of thoughts that one possesses largely decide how he shall act, what he shall will to do. One's character must depend a good deal, then, upon the closeness of the relation between these spheres of thought. If two sets of ideas that are inconsistent with each other obtain control at different times, a person is said to act inconsistently; and if he shows the tendency to shift about to a considerable degree, he is called vacillating. Vacillating characters are weak. As soon as a person admits that it is largely ideas that control conduct, and not simply an independent power called the will, he sees the necessity of great unity among one's ideas in order to secure safe, consistent, and firm action. With this point in mind the assertion is made that frequent change of environment by children is injurious to character. If a boy spends his entire youth in a single community, his experiences become associated about a few centers, or into a few groups of ideas; these groups, being large and strong, become the centers of control and virtually determine action. If they have become fairly well harmonized with one another—as is likely when there are so few—the boy knows himself well enough to keep his bearings. His education may be very narrow, but he has traveled so often over the same field of knowledge, feeling, and volition, that he is firm and even dogmatic in it. No doubt our Puritan forefathers owed their strength of character partly to the unity among their ideas; their education was not usually broad, but the religious sphere of thought became their controlling center, and other thought was associated with and subordinated to it.

On the other hand, if a boy travels much, especially if he travels in different countries where ethical ideas, social and business customs, vary greatly and are often contradictory, he is in great danger of confusion. The continual change of environment tends to prevent the establishment of a few central spheres of thought. Before a principle can become a conviction and gather about it enough experiences to support it firmly, the attention is called away to other things, often to principles that apparently or really contradict the former; hence it is with difficulty that he can get and keep his bearings and grow in firmness. Many an adult who has traveled abroad recalls what a struggle he passed through in order to retain his footing on religious, moral, and social questions. Hence the child, moving from place to place, is inclined to have few firmly fixed notions, just as he has no fixed abode. Ackermann of Eisenach declares that there is a difference between city and country children in this connection; on grounds already stated, he says that children reared in the country develop stronger characters than city children; the latter dwell in too large and changeable a world to build up an undivided and harmonious or strong personality. On the same ground men have believed that the course of study given to boys two centuries ago, in which the classic languages were the center about which all other study was associated, tended much more to produce steady, firm character than the course of to-day in which many more subjects are taught but in an unrelated way.

The seriousness of this topic is easily seen. Granting that people are controlled to a considerable degree by the thoughts that they have, rather than by a quite independent will, it is clear that, in order to get the full benefit of these thoughts, they should be capable of being massed quickly. Ideas, just as soldiers, need to be mobilized speedily in order to meet a specific danger or demand. For instance, when a person is tempted to lie, all the convictions and incidents opposing that sin should come to mind instantly in a troop. If they come sauntering along, some are likely to put in an appearance too late; then they exert no combined influence. The old truth holds here as elsewhere that "In unity there is strength." The same thought is forcibly illustrated also in business life. The reliable business man must be able to collect his thoughts rapidly. When an important step is under consideration all the *pros* and *cons* that he ever heard of should be brought together and weighed. Of course it is a great advantage if this can be done quickly, for in morality and business, right actions and success are very often dependent upon speed. However, such speed is the result usually of long and careful training. We have all made the discovery repeatedly that our ideas on a given subject are very unaccommodating in this respect; they are so arbitrary in presenting themselves just when needed. It is said that Henry Ward Beecher spent his time reading and thinking during the week, and prepared his sermons on Sunday morning just before the hour for service. If that is true, it means simply that his many thouhts were so interwoven that, when any chain of thought was started, all ideas related to it closely were so securely tied to it that they came to mind without delay: that signifies great strength. But most men do not enjoy that advantage. If they attempt to prepare a lecture or debate, they need to sit and ponder, *i. e.*, to hunt for the things they know, and this often consumes much time. Usually they want to "sleep over" any important project, before they can feel sure that they have not omitted any weighty consideration; even then they may find that something was overlooked. It is important to note two points here: first, that *all* the experiences related to a given subject should come to consciousness; second, that they should come *quickly*. If both of these conditions are not fulfilled, a man virtually has not his full self with him when he is called upon to act, or to use a very significant expression, he hasn't his full presence of mind. Unless he is contented to be slow, to wait for a "sober second thought," and to search himself carefully, his action is likely to be injudicious or immoral. In short, we see that the association of ideas is intimately related to strength of character; that when a close connection is established among an abundance of related thoughts, one is likely to be quicker, safer, and firmer in the decision he reaches. When we reflect that life consists of a continual debate, that in all matters, whether of morals or business, men are called upon to weigh evidence, to balance *pros* and *cons* then to act, we see the extent to which the relationship among ideas must influence conduct. No matter how much a man may know, if he cannot think of it when it is needed, if he cannot mass it quickly against a temptation, or if he cannot have the benefit of it all in passing a judgment, he practically knows less and is a weaker man than he might be.

School education can help to remedy that defect. Since the rapidity and completeness of the reproduction of ideas are known to depend upon the closeness of relationship among them, upon the extent to which they are built into chains, or series, or networks, one of the first duties of the instructor is to weave the knowledge that he imparts into one web.

Thus far I have attempted to show that character is greatly affected by linking one's thoughts together. But concentration aims at much more than simply establishing connecting links of whatever kind among ideas; it aims at uncommon thoroughness of knowledge by establishing the strongest possible links, the most intimate relationships among them. Relations can be artificial and accidental, but really thorough knowledge results only from natural and intimate associations. Concentration is important then, in the second place, because it plans definitely for great thoroughness.

The question immediately arises whether the different branches of study really bear an intimate relation to one another, so that in order to be thorough one must see this relationship. This is a subject that has been much discussed recently, and it has been made clear that about one-half of our common school studies are almost completely dependent upon the other half for their motive, hence for their force.

For example, elementary reading, writing, spelling, written language, and number, when taught independently of their subjects, are dead. But when they are introduced in connection with those branches containing rich thoughts, interest that these latter excite furnishes interest to the former, and hence motive for studying them. In other words, it has become established that the *form-studies* are by nature dependent upon the *thought-studies*. Further, no one will deny that there is a close connection between literature and history and geography, and between these and the natural sciences. The interdependence among these sciences themselves is also found to be very striking. Formerly each science was taught separately because it was seen that its parts were closely connected. But in botany the relationship of one plant to another is mainly structural, while the connection between botany and zoölogy is causal. Similarity in structure is by no means so attractive, so stirring to the human mind, as the causal idea. Then why should the latter be sacrificed to the former? The closer relation is the one that is worth most to the student, and that should determine the arrangement of the studies. Accordingly some of our best high school and normal school teachers of science are favoring a study called biology instead of the two separate ones called zoölogy and botany. One of the most influential books in German on science instruction is Finger's *Dorfteich*, which advocates a village pond as the subject of study, and as much of botany, zoölogy, and chemistry, as is necessary for the appreciation of the community of living things that inhabits the pond. By that means all the science that one learned would compose one body of knowledge, being closely associated. Granting, therefore, that there is a natural connection between the different branches, a proper plan for concentration endeavors to search out and then to establish in the learner's mind the best relationships. By so doing it is evident, as said above, that the knowledge acquired is much more thorough; and we are reminded that one chief reason for having so many subjects of study is that they may explain one another. When a classical poem treats of an event that the history has already handled; when the geography produces a vivid picture of the country in which the event happened, and the nature-study describes the fauna and flora that are characteristic of that country; when the written language work is a composition on the traits of that people, and the art reveals their peculiar æsthetic tastes; when all the subjects, thus associated, present different portions of one large picture, the result reminds us both of what instruction *can* accomplish, in regard to thoroughness, and also of how much it usually fails to accomplish. We are prone to forget what is meant by thorough knowledge, and how superior it is to that which the schools usually impart. Anyone knows that a mountain does not present the same appearance from one side as from another, and that he who has viewed it from one standpoint, even on a very clear day, may not recognize it at all when seen from another point. The same is true of learning. Since it is only that knowledge which we have seen from many or all sides that is our own, to such an extent that we can use it, it should be one of our leading objects to find numerous positions from which to look at each thing we learn. The different studies will furnish these various positions, provided they are carefully arranged with that end in view. But unless that precaution is taken, we in reality fail to learn what we are supposed to master. Most children would not risk a meal on one fact in ten that they learn in school. Many adults, on beginning their life work, are conscious of throwing overboard most of their school knowledge and of finding only a few things that they are certain of and dare build on. Felix Adler in his *Moral instruction of children* remarks that a little knowledge thoroughly understood is like a tower of strength in an enemy's country; from it one can sally forth into the surrounding territory and, in time of danger, he can retreat to it as to a place of safety. It is the duty of the school to build such towers of strength, for the courage, perseverance, and success of people are in large measure due to their feeling of certainty of what they know, while nothing produces weakness more surely than the consciousness that one is not sure of his ground. The advocates of concentration plan to secure thoroughness by massing ideas according to their closest relations. It is evident that the execution of such a plan will increase both strength of character and utility of knowledge.

The subject of *interest* is also involved in concentration. Permanent, deep interest in the subject-matter of instruction, like thoroughness of knowledge, is directly dependent upon the *number* and *closeness* of the relations into which thoughts enter. When they stand isolated, they are powerless; but when united into a series, or when built into a system, they have wonderful attractive power. Witness for example the system of philosophy of Plato and of Leibniz; or the system of pedagogy of Froebel and of Herbart. Even those who cannot accept the doctrines of these men are still often intensely interested in their teachings. The beauty of connected thought, of system, tends of itself to win converts. One reason why kindergartens are so much in love with their work is that they are inspired by Froebel's system of thought. In many cases it is this system which has first attracted them, and which has gradually led them to love children. One reason why teachers ordinarily are so lukewarm toward their profession is that what they know about teaching is disconnected. While they know an abundance of facts, these are in a chaotic state. Relationships are the rarest meat of instruction. We can never entirely omit them in teaching any fact, but unless they are definitely planned for and kept in mind, most of them and the best of them are overlooked. That is what happens in our ordinary instruction. The continuity of thought secured by the gradual unfolding of a subject is so conducive to intense interest that it should be aimed at not merely in the development of a single study, but in the development of the curriculum as a whole. Concentration attempts to realize this demand in practice.

Finally, the relation of concentration to memory is exceedingly important. Modern psychology tends to declare that the chief work education can do for the memory is to weave ideas together so closely and in such an interesting manner that they will be frequently reproduced. Strong interest is the motive for frequent reproduction, and when one's thoughts have been built into strong chains, there is assurance that they will be recalled very often; one thought necessarily brings those others into consciousness that are bound to it. Mnemonic systems have been based mainly on the laws of association of ideas. Their weakness has consisted in the fact that they have relied too much on artificial associations. School instruction can accomplish their object in a better way by cultivating a love for vital relationships, thereby welding thoughts together permanently.

Four reasons for concentration have, therefore, been urged: it strengthens character, it leads to thoroughness, it deepens interest, and it secures better recollection.

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IV

POWERS AND DUTIES OF SCHOOL SUPERINTENDENTS

The professional superintendent of schools is comparatively a new officer. It is not surprising therefore that his position, his powers, the limit of his authority, and the full scope of his duties should not yet be definitely determined and everywhere agreed upon.

The American system of public schools dates its origin from almost the very beginning of the permanent colonies. The town of Dorchester, Mass., now a part of the city of Boston, has claimed that it first introduced three important innovations, viz.:

1. That it first established, on Monday, October 8, 1633, the New England town meeting, by ordering that once a month, on "each Monday before the court," there should be "a general meeting of the inhabitants of the plantation at the meeting-house, there to settle and set down such orders as may tend to the general good as aforesaid, and every man to be bound thereby, without gainsaying or resistance."

2. Six years later the town records have the following: "It is ordered, the 20th of May, 1639, that there shall be a rent of twenty pounds a year forever imposed upon Thompson's Island to be paid by every person that has property on the said island, according to the proportion that any such person shall from time to time possess there, and this toward the maintenance of a school in Dorchester. This rent of twenty pounds yearly to be paid to such a schoolmaster as shall undertake to teach English, Latin, and other tongues, and also writing. The said schoolmaster to be chosen from time to time by the freemen."

3. After another period of six years, at the "March meeting"

in 1645, the town established rules and orders "concerning the school," and ordered that "three able and sufficient men of the plantation be chosen to be wardens or overseers of the school, who shall have the charge, oversight, and ordering thereof and of all things concerning the same in such manner as is hereafter expressed and shall continue in their office and place for the term of their lives respectively, unless by reason of any of them removing his habitation out of the town, or for any other weighty reason, the inhabitants shall see cause to elect and choose others in their room, in which case and upon the death of any of the same wardens, the inhabitants shall make a new election and choice of others."

This is believed to be the first provision for a school committee in America. From that time till now public schools have been under the control and management of school committees or directors, or boards of education—whatever the name may have been. This plan of school management did very well in the olden times and under the earlier conditions. The school committees generally, almost invariably, included educated men—the clergyman of the town, the physician or physicians, and the member of the legal profession. The clergyman was the leading man on the committee. Politics had not then arrived at the dignity of a science. To get elected a member of the school committee was not then a stepping-stone to a higher and more desirable office. But all that condition of things is now entirely changed. As our population more and more settled into cities, these cities proceeded to improve their school systems, and for this purpose appointed school superintendents, men of ability and learning, and men of professional standing and experience, who had made a careful study of education, both as a science and an art.

This innovation, however, is of quite recent origin. It was not till 1837 that Buffalo, N. Y., appointed a school superintendent, and the city of Providence, R. I., two years later, in 1839, elected Nathan Bishop as the first city superintendent in New England. Twelve years afterward Boston established the office and called Mr. Bishop to become the first of that illustrious line of men in charge of the schools of that city. Practically, then, we have been trying this experiment of school superintendents but about half a century. Yet it is not too early to say that the plan is a great success. There is to-day scarcely a city in the whole land which has not placed its schools in charge of a superintendent.

But the time has not yet arrived when all men are agreed as to what should be the scope and the limit of the superintendent's duties and authority.

Everyone knows how reluctant men are to give up authority when once they have secured it, however small or brief it may be. From the beginning, in this country, the school committees, or school boards, have had full control of the schools. When they appoint a superintendent they do not immediately and willingly transfer the authority to him and hold him responsible for results. Far from it. They have generally made him their "agent," to do their bidding, and have been exceedingly careful that he does not have a chance to get the reins into his own hands and drive the team himself. He must even sit on the back seat for fear of possible consequences. Was ever a city known in which the school board did not have its elaborate "rules and regulations"? "Three R's," the pupils in the schools are expected to learn, but "two R's" are supposed to be essential to the well-being of any city school board. It is generally understood that the "rules" are for governing the body itself, while the "regulations" are necessary for the government of the schools.

Will not some ambitious city set a good example and add to their former two R's, an additional one, so as to keep pace with the children with their three R's, and prepare a body of 1. *Rules* to govern the body itself; 2. *Regulations* to govern the schools; and 3. *Requirements* for the superintendent; giving him full scope of authority and requiring of him certain definite results.

The public school system first took root in the older colonies, especially in New England. Hence it is but natural that we should expect to find in these older States the difficulty above described more intensified than elsewhere. Such is the fact. In the newer States, especially in the great Northwest, the magnitude of the evil is far less, and in some localities it is hardly experienced at all. Even in such States the superintendent may not always find smooth sailing in a clear stream. He may occasionally run upon political snags, but they are not so immovable as are the deep-rooted prejudices of Eastern school committees.

It is probable that many of the readers of this REVIEW are not aware of the magnitude and extent of the evils above alluded to. What, then, are they? Let me begin with Boston. This is the largest city, the metropolis, of New England. It has nearly half a million inhabitants. The people are rightfully proud of their schools. They are proud of their extensive system of supervision. They employ an able, judicious, and experienced man as superintendent. They have a corps of six supervisors, five men and one woman, all cultured, experienced, and all formerly successful teachers. But with this large and able supervisory force the committee still hold all power in their own hands, and neither the superintendent nor his six experienced supervisors make any move until they are ordered by the board. Here is the bill of particulars:

The superintendent of schools in Boston is "now and always has been an advisory officer of the school board." According to the "regulations" the only executive powers conferred upon him by the board are the power to strike the one session bell in stormy weather; to close schools a limited number of times in the year for teachers' meetings; and, once in two years, to assign schools and departments of school work to the several supervisors. His relation to the teachers is that of adviser merely. These school regulations say that "The board of supervisors shall be the executive board of the school committee, and as such may be called upon to perform any of the duties of school committees under the statutes of the Commonwealth except such as are legislative in their nature." This shows clearly the possibilities, but until the school board "calls upon" this executive board of supervisors to perform certain defined duties they are powerless. Here is the chance to give to the supervisors authority; but has it ever been given?

One would naturally look to the very next sentence in the regulations for authority to be conferred upon the supervisors. Instead thereof we find this emphatic restriction in positive language: "But neither the superintendent nor the supervisors *shall have any authority* over or direction of the principals or other instructors except as provided by the board in the regulations or otherwise."

Now it is clear from the above that the city of Boston might have made large and real grants of executive power to the superintendent or to the board of supervisors, or to both; but a somewhat careful search of the regulations fails to discover more than a few and quite unimportant grants of such power.

But if the so-called officers of the school board have but little executive authority, who does have it? Where is it to be found? In the management of a great system of public schools there must necessarily be large and broad executive powers, which are certainly necessary to the efficient administration of the schools. These powers are lodged in the school board itself; and they are exercised by the various standing committees of the Board. These standing committees carry their work down to the smallest particulars. Such standing committees as the committee (1) on drawing, (2) on music, (3) on manual training; (4) on sewing and cooking; (5) on physical training; (6) on kindergartens, etc., have full powers over the "general supervision of these branches of instruction in all the schools." Hence the "director of physical training," the "director of music," and the "director of drawing," etc., are responsible, not to the superintendent of the schools, as they should be, in the judgment of many, in order to get unified and consistent work, but they are directly responsible to their respective standing committees.

The writer well remembers, when, some years ago, as a member of the Boston school board, he was placed on the committee on examinations and at the first meeting of that committee after his assignment as a member of it, how astonished he was to find the nature and scope of the duties devolving upon this committee. This is what he found: Three thousand children, more or less, had completed the prescribed course of study in the grammar schools, and it was the duty of this committee on examinations to decide, in each individual case, whether he should receive his certificate of graduation from the grammar school, which certificate would entitle him to admission to his respective high school. I well remember that after sitting in silence for about half an hour and listening to the presentation of case after case by the principal of the school or the supervisor in charge of such school, and the vote, in each instance, of this august committee on examinations, I said: "Mr. Chairman, I confess I do not understand this business. Here you have the papers, showing the judgment of the individual teacher, *who knows all about the pupil*, expressed in a positive 'Yes' or 'No'; you have the expressed opinion of the principal or master of the school, in his explicit 'Yes' or 'No,' and *he knows considerable* about the merits of the case; and then you have the judgment of the supervisor in charge, who is supposed to have looked into the case and, *knowing something about its merits*, has made up his mind; I say, you have before you all this testimony, which you are at liberty to accept or reject as you please, and you, who, in the nature of things can *know nothing whatever of the merits* of the case, are to decide upon the destiny of these children. I object to having such duties thrust upon me, and I must refuse to revise the judgment of these proper executives, viz.: (1) the teacher in charge of the pupil, (2) the master of the school, and (3) the supervisor who has had the care of that school assigned to him. I prefer to fall back upon the judgment of the supervisor. He is far more competent to determine the question wisely and justly than I am."

The result was that as long as I was a member of that committee I never refused to accept the report of the supervisor. Indeed the committee at once divided into subcommittees of one member each, who sat down with his one supervisor and authorized him to mark each pupil as "passed" or not, according to his own judgment.

The conclusion cannot but be evident that the school regulations of Boston place practically the whole executive power used in carrying on the public schools of that city in the hands of the standing committees of the school board. The superintendent and supervisors do not exercise this power, because it is not lodged in their hands. They can only invoke its exercise by these committees when the necessity comes.

The school board of Boston already begins to see the difficulties which arise from this condition of affairs, and has already (1894) voted increased power to the superintendent. This increase, however, is in the main to place him at the head of the supervisors, rather than to make him superintendent of the schools. The standing committees have not yet parted with their power, and so far as the board is concerned the superintendent is yet only an advisory officer.

What is needed to give proper efficiency to the Boston system is to make the school board the legislative body and the superintendent the head executive officer. He should be related to the supervisors as the masters of the schools are to their teachers. He will consult them, but he should not be absolutely bound to follow the opinion he gets from them. All work, whether by supervisors, masters, or special teachers and directors of special studies, should be reported to the superintendent, who would thus be able to unite and systematize all branches of school work to such a degree as is clearly impossible by the present plan.

I have purposely outlined the condition of affairs in Boston, because Boston is not only the metropolis of New England, but is a typical city in regard to its school management. What is true of Boston in relation to these matters is substantially true of other New England cities. While the school rules and regulations of no two cities are alike in detail, yet the same underlying principles are observable in them all.

And this grows out of the lamentable lack of State legislation upon this subject. Massachusetts might be supposed to take the lead, as she has most decidedly led all the States in placing her schools under supervision. She has not only superintendents for her city schools, but by recent legislation she has enabled her smaller towns to join together and select a professional superintendent for two or more towns, forming a district; so that nearly all the schools of the Old Bay State are to-day under supervision, and these superintendents are rapidly molding and elevating the schools of the Commonwealth to higher and better work. But the legislation of the State, even in Massachusetts, is woefully deficient in regard to this matter of the powers and duties of the superintendent.

John Hancock—not the old Massachusetts statesman of the revolutionary period, but John Hancock, the educator, of Ohio—once said of Massachusetts: "State system! State system! Massachusetts has no State system of education." It is easy to see what his meaning was. So much is left to the towns and cities—so great reliance is placed upon "local option"—that the State control is weak. We of New England can well afford to smile at such a statement. While Massachusetts has had an efficient executive head of her system of public schools for fifty-seven years, and this period has been covered by the service of only five men, and such men as Horace Mann, Barnas Sears, George S. Boutwell, Joseph White, and John W. Dickinson—Ohio has had a State Commissioner of Education forty years, and has appointed a new man, if I am not mistaken, every three years. Again, Ohio has not a single State Normal School, but from the five State Normal Schools in Massachusetts (soon to be increased to nine), and the various city normal schools have come nearly half of the teachers to-day employed in the public schools of the State.

Yet there is force in the criticism of Dr. Hancock. There is such a thing as carrying the local plan too far. This was illustrated in the school district system, now happily abandoned in this State, and which has almost entirely disappeared from all New England. What shall we say to-day of the total absence of State laws concerning the duties of school superintendents?

Throughout two centuries and more the laws enacted by the Great and General Court of Massachusetts have been elaborating and defining the duties of the school committees, until now, as published in a pamphlet issued by the board of eduation two years ago, these laws, defining in general and specifically the duties and powers of the committees in respect to supervision of the schools, cover more than forty pages, while not a single page is devoted to the duties of the superintendent of schools. In the table of contents this heading appears: "School Committees—Duties as Supervisors of Schools, pp. 29–72," but no such heading as "Superintendent of Schools" is to be found. Here and there is a sentence relating more or less remotely to the duties of a superintendent, but not sufficiently to necessitate a heading in the table of contents. One duty, and one only, is by State law assigned to the superintendent of schools. He is to sign certificates entitling the child to be lawfully employed according to the State compulsory school law.

On p. 38 of this pamphlet, Chief Justice Shaw is quoted as using the following language: "The power of general superintendence vests a *plenary authority* in the committee to arrange, classify, and distribute pupils in such manner as they think best adapted to their general proficiency and welfare." He is further quoted as saying in regard to how many schools may be maintained, qualifications for admission, age at entering, and other matters: "these must be regulated by the committee *under their power of general superintendence*." By law the committee has full power to examine teachers and give certificates, to prescribe courses of study, to determine what text-books shall be used and various other duties concerning which it is fair to inquire whether it were not better to have them vested in the superintendent?

The law permits the appointment of city superintendents, who "shall have the care and supervision of the public schools," but only "under the *direction* and *control* of said committee." Not a particle of power has this superintendent, even after his appointment, until such power has been conferred upon him by express vote of the school committee or by adoption of certain regulations conferring upon him powers which must be specific and fully defined in every instance. It should not go unnoticed that *powers* and *duties* go together, and in so far as the committee fail to grant "powers" just so far do they fail to exact "duties." Hence it may appear that the duties of a superintendent are as seriously crippled as are his powers curtailed.

But it may still be contended by some that the present arrangement answers the purpose equally well. The school committees have the power, and they delegate this power to the superintendent. Observe for a moment what such a statement implies. For centuries all the power needed for the care and supervision of the schools was vested in the committees. It is admitted that this plan was at that time a tolerably good one under the circumstances; it is equally obvious to the citizens of Massachusetts to-day that, under the now existing circumstances, another plan is far better.

Psychology, pedagogy, the study of the child mind, new methods, new arts and devices in teaching, have so arisen and have received such attention that to secure the best results *to-day*, professional experts, who have made a study of these subjects, and who have had the necessary training and experience, must be placed in charge of the schools. This, I say, is clearly seen and acknowledged on all sides. This conviction has been embodied in carefully considered laws which have been enacted by the Great and General Court, establishing a system of professional superintendence of schools of the State, towns as well as cities. Having taken this step, will anyone claim that the State should stop there and leave the committees in the several towns full power to carry out the law or to ignore it? to make the superintendent an efficient, active force, or to minimize his efficiency by delegating to him the smallest possible power and least possible responsibility? For years a school committeeman has had charge of a particular school, and that school has come to be, to him, a pet. Will he willingly give it up to a stranger who happens to be chosen as superintendent? Again, the average school committeeman *may* have, as has elsewhere been said or sung,

> " His sisters and his cousins,
> Whom he reckons up by dozens,
> And his aunts ";

to say nothing of his wife's relatives who, possibly, may be equally numerous. In the natural course of human events some of these *might* desire a position as school-teacher.

Seriously, by which method will the schools secure the best teaching talent?—when *one man* nominates a teacher for one individual vacancy, and another for another vacancy, or when a competent superintendent, having regard for the fitness of the candidates and the requirements of the schools, nominates *all the teachers?* In like manner every point connected with the detailed management of the schools may be considered; and if I mistake not, it will be clearly apparent that the highest efficiency, the greatest progress, and the most rapid advancement of our system of education would be best promoted by giving the superintendent the power and placing upon him the responsibility of managing them, when he has once been elected for that purpose.

Let me here mention and set in order some points which occur to me, as I am writing, over which, by State law, in New England, the superintendent has no control, but concerning which it is at least a fair question to inquire whether the schools would not be benefited by placing these matters, in whole or in part, by State law, under his jurisdiction.

Things concerning which the Superintendent has, by State law, no power

1. The examination and appointment of teachers; 2. Conditions of health in the schools; 3. Text-books and text-book

changes; 4. Books for supplementary use; 5. Examination of pupils for promotion; 6. Qualifications for certificates for graduation from grammar and high schools; 7. Courses of study; 8. Arrangement of grades and classes; 9. Settling of cases of discipline; 10. Suspension and expulsion of pupils; 11. Change of district lines; 12. Transferring pupils from one school or one district to another; 13. Admission of new pupils; 14. In general the control and management of the schools and the guiding and directing public policy and methods of teaching in the public schools.

It ought to need no argument to show that the schools of a great commonwealth should be managed on business principles. But would the directors of a cotton mill, a woolen mill, a machine shop, a railroad corporation or other business which employs a large number of workmen, undertake to dictate to their superintendent, in detail, what he must and must not do? Could they understand the complicated business as well as he? If so, why employ him at all? No! They place the business in his hands, give him all necessary power, and hold him responsible for results. Nor would any competent superintendent submit to such dictation. What, then, is absolutely necessary for the greatest success in business is equally necessary in the schools.

Can any possible reason be found why an exception should be made in the case of the management of the schools of a State, except the historical condition already considered, which, indeed, is no *reason*, but only the *explanation* of how it has happened to be? This exception is all the more conspicuous when we consider the methods everywhere prevailing in our colleges, professional schools, academies, and other institutions of learning. The trustees of Harvard University, for example, place the executive and administrative management of that institution in the hands of President Eliot, under certain general rules for his guidance, and these trustees expect good results, and that without such interference and dictation from the trustees as is sometimes so conspicuous in the relations existing between school committees and superintendents.

Under these circumstances, what ought to be done? Two answers may be given to this question:

1. It may be answered theoretically: that is, what in the nature of the case reason would show to be the best plan, or,

2. It may be answered, in any given case, practically; that is, not what is theoretically best, but what would be possible to secure and wisest to attempt under existing conditions.

It is no part of my plan to answer this second question. A different answer would be required for every different instance. I am only discussing the general merits of the case. With this explanation, may we not feel ourselves warranted in drawing from present conditions and difficulties certain conclusions, like the following:

1. It is high time that some underlying principles should be agreed upon in regard to the distinct and separate powers and duties of school committees and superintendents.

2. The office of the school committee has its own legitimate functions, and should not be underrated; but, on the other hand, if the usefulness of superintendents has been fully established and their necessity granted, their powers and duties should be carefully defined by law.

3. The school committee should have full powers in regard to municipal school legislation, full charge of building schoolhouses, keeping them in repair, hiring janitors, electing teachers (when nominated by the superintendent), making rules for governing the schools, and whatever should be decided by the direct representatives of the people. But, on the other hand, the superintendent should have his place assigned, and by the State law the limits of his powers so fixed that there shall be no trespassing by the other party upon either his field or that of the committee. He should be the executive and administrative officer. In this administration of affairs, whatever experience and good judgment dictate should be carried out and under definite and well-defined laws.

4. Another important conclusion to which we are driven by the logic of events is that the appointment of the superintendent should be permanent and not annual or biennial. The

statutes of Massachusetts "provide that the school committee of any town or city may elect any duly qualified person to serve as a teacher in the public schools of such city or town during the pleasure of such committee; provided such person has served as a teacher in the public schools of such city or town for a period of not less than one year." If this is a wise provision for teachers, surely it is at least equally wise for the superintendent. The superintendent of a manufacturing establishment is not subject to annual re-election. Why, then, should the more important office of superintendent of schools be subject to such a precarious condition?

The conditions I have described exist most fully in the New England States, and I have selected Massachusetts as a typical State. Many of the difficulties here complained of are found in greater or less degree in other sections of our country. In a few instances advanced legislation has already been tried; and so far, I believe, with good results. In Ohio, especially, by State law the cities of Cincinnati and Cleveland have largely broken away from the former methods and have done substantially what in this paper has been advocated. Denver, Colo., while still holding the power in the hands of a small board of education, consisting of only six members, practically has put its schools in the hands of the efficient superintendent, who for many years has been eminently successful, and who has brought the schools of that city to a high position of usefulness and eminent success. Other cities, especially in the great West, have done much in this direction, but the contention is that the matter should be taken up by the States and such legislation enacted as shall define the separate sphere and duties of committees and superintendents. It would seem clear that the time has come when the superintendency, having been firmly established and its necessity demonstrated, should have its limits of power assigned by law, so that its legitimate responsibilities may be placed upon it, and it be held accountable for a faithful fulfillment of its proper obligations.

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V

ONE YEAR WITH A LITTLE GIRL

I give here some of the observations made upon my own child, hoping that such may aid in the great work of child-study that we are entering upon. I began to take notes of this child's doings when she was a year and a half old, and the record as given in this paper ends at one year, or when she was two and a half years of age. I did the writing, but my wife kept notice of the little girl and gave me as many points as I got myself. On each day the child was observed and notes taken of her doings. These notes were made at different periods of the day, and the facts noted were those things done by the child in her unguided, unrestrained moments. At the end of the year I very carefully went over the whole material, and set down each record under its appropriate heading as well as I was able so to do. This paper is the outcome of the work. When I have need to use the child's name I use her initial, O. This little girl is an only child, so that when I speak of children I mean the children she plays with.

The most remarkable time for the play of the senses appears to be during early childhood. I have found with this little girl that hearing and sight are the most active; yet touch and taste and smell are all in strong activity.

Her acute powers of hearing were well shown in her twenty-seventh month. She wanted a banana, and there being none in the house her mother told her to listen for the "banana man." She went to the window (open, with screen in), and not seeing nor hearing the man she went back to her mother, begging again for bananas. Her mother told her to go to the window again. She did so, and soon went back to her mother again. This occurred for three or four times, and then O came running to her mother, crying out, "Nany, nany." Her mother listened, but could not hear the man, nor could she see him nor had she heard him before, so she thought O must have been mistaken, but in a short time his cry was heard some distance away, and soon O got her bananas. Thus, when a child's interest is awakened, the senses become very acute. We fail many times to give children credit for their strong perceptions. This little girl in her twenty-ninth month was playing with the children below in a room, with doors closed; her mother started down to bring her up, and while she was on the stairway she heard O cry out quite loudly, and when she went in she found her on the floor, motioning her hands and jumping up and down, thus showing her aversion to going upstairs to her own home. O's shriek was made when she first heard her mother's step on the stairs, so one of the older girls said, and thus perceived her mother by her step.

Among young children sight seems to take an essential place. It is very interesting to note what impresses children and what does not. In this child's twenty-third month there were quite vivid lightning flashes, and as there had not been lightning for over six months before this I felt very much interested in observing her, as by good luck she was standing near a window, and looking toward the lightning. She did not appear to be startled, nor did she flinch at the flashes, although two or three times she rubbed her eyes just after the flash, as she does sometimes when a lamp is first lighted. I watched her at one time for quite a while to see if she batted her eyes at the flashes, and I did not see her bat her eyes a single time, I noted only slight quivering of the eyelashes, but even this did not occur every time. In her twenty-sixth month she saw the whole of Barnum's street parade, from sidewalk about fifteen feet from wagons, etc., yet she made no demonstrations whatever. How deep an impression little things may make upon a child is shown in the following. Some time during the latter part of her second year an A B C book was given her in which there was the picture of an owl, and we told her that this was an owl and that it said "Who-who-who are you";

which she tried to imitate. One afternoon in her twenty-eighth month she was walking along a business street with us when all at once she went "hoo-oo-oo!" and upon our looking in the direction in which she was looking, we really saw in the show-window of a drugstore a stuffed owl. This owl also was noticed by her and called "hoo-hoo" later in this twenty-eighth month from within a street car, as she was riding past this store one day. On the second day of her twenty-fourth month this little girl's sharp eyes discovered the veins on the inside of her left wrist, at which she showed great wonder, pointing to them with her forefinger and *ohing* and *ughing* in great style. Some time during her thirteenth to fifteenth month her grandmother showed her pictures in a book, and from this time on, during this entire year of records, she took great delight in pictures. To look through a photograph album was of special delight. One evening in her twenty-third month, while she was looking through the photograph album, I found that she could not tell my picture nor her mother's from others; yet when asked to point out her father she would invariably point to the picture of a man, and if asked for her mother to the picture of a woman, and when asked for either of us, at pages where there were photos of babies only, she would not point at all. One forenoon, the second day of her thirtieth month, she was sitting quietly on the floor, looking through one of her books, when all of a sudden she jumped up, and pointing to the head of a cat in the book, she cried out: "Looky, kitty! Looky, kitty eyes! Looky, kitty, papa! Looky, kitty nice! Looky, kitty! Looky, papa, kitty!" She was in a great way and appeared to be very happy, as if she had found a long lost friend. To look into a mirror was one of her especial pleasures. In her twenty-fifth month she climbed up into a chair about ten feet away from the dresser, and admired herself in the mirror; she would turn first one side, and then the other, primp herself with her hands, move her hands about, twist her face into different shapes, and in many other ways study herself in the mirror.

It is thought to be a misfortune that our present civilization almost entirely ignores the sense of smell, as much pleasure could be obtained, and, perhaps, as someone has suggested, things which are injurious to us but not so shown by taste might be known if the smell was highly cultivated. There is no doubt that the sense of smell is of very great value to the infant in the selection of its food, and this power of discrimination remains, no doubt, with the child some little time. This little girl is very fond of perfumery, and likes to have it put on her clothing and to smell the bottle. One afternoon in her twenty-sixth month, I brought home a large bottle of lime water and a small bottle of cedar oil (which has a vile odor) and when she saw them she begged for a "botty." I uncorked the cedar oil and held it to her nose; she took one good smell, then pushed the bottle from her, and asked no more for a bottle. Thus the unpleasant odor caused her to turn aside from wanting an injurious article. It would be of very great interest and value, could we have a series of experiments upon the sense of smell in children carried on in a systematic, scientific manner.

Taste seems to be the first sense to be developed in the child, and it becomes his strongest sense, and everything indicates that this is the supreme sense of the child for some years. It is a common saying that everything goes into a child's mouth; but if this is so it is just as true that everything does not stay there. The taste for sweet is very well-developed in children, yet many strange things can be noticed in this, if studied. For instance, this little girl's taste for candy did not develop very early; for as late as the last day of her nineteenth month, some candy was given to her, which she put into her mouth, held for a short time, and then spit it out. Her first time to eat candy was not till the last week of her twentieth month, at which time she was given some by a lady and she ate it, and seemed to like it very much, and her taste for it has continued since. Her taste for sour was well shown in her twenty-second month, as she ate and relished cucumber pickles. In her twenty-sixth month she was given some lemonade, of which she took a drink, made a wry face, and said "col" (cold), no doubt meaning to convey the idea sourness by this word, as before this she had said nothing about cold when drinking ice-water or iced tea. In her twenty-ninth month she wanted a piece of lemon on the table, and when given to her she tasted it, made a wry face, and put it away from her. This was at breakfast. At dinner some pieces of lemon were on a dish near her plate; she picked up a piece, saying, "oh, lemon!" tasted it, said "tour" (sour), and laid the piece down. I wonder how many have noticed what great liking children have for ice. In this child's twenty-sixth month she persisted in taking the ice out of her ice tea and eating it, of which she ate three small pieces, and her taste for it has increased. One of the remarkable sights of this neighborhood is the flocking of children about the ice wagons, to get pieces of ice to eat. Each child must have a piece before satisfied. They range from three to twelve in age, boys and girls alike, French, Irish, American, all vying in this taste. That taste is well carried in memory is illustrated by the following occurrence. On the first day of O's twenty-ninth month, she was given some honey, for her first time, and she did not like it very well, nor would she eat it afterward. Just one month later, first day of thirtieth month, her mother took some of the strained honey in a spoon and offered it to O, telling her it was syrup (O is very fond of syrup made from granulated sugar); she looked at the honey and did not distinguish that it was not syrup, so she tasted it, but immediately pushed it away from her mouth, pointed to the molasses pitcher, and said "Good surp" (good syrup). She had not eaten syrup for a week, perhaps, yet she was thus able to hold the taste of it in mind and so compare with the honey taste and make her judgment.

Have you ever stopped to think that the child is all movement? There is no such a thing as a child's remaining still, not even for a half minute. Their whole life is movement. A well child is never still when awake. Something about him is always going. Upon a dusty shelf in a room of a certain college there lies a board of about fifteen inches square, with circles and lines scratched on its top and a few wheels fastened to it, which is the sole remnant of a life and a fortune spent in trying to obtain a perpetual motion machine—the failure of a lifetime. Had this investigator spent one day, one hour, fifteen minutes, in watching a healthy, well-fed child, he would have found his long sought for machine. O has shown pleasure in movement during her entire year. Swinging is of special delight. In her twenty-fifth month, before she could sit in the swing herself, she was sitting in the lap of a twelve year-old girl being swung; after a good time the swinging made the girl sick, but O enjoyed it so much that she cried for its continuance when the girl was compelled to stop. From this time on her pleasure increased, for in this same month she learned to hold herself in the swing while being pushed, and in the next month she learned to swing herself by pushing on the ground with her feet and catching by them on the return. Nor was this swinging all, for in her twenty-ninth month I noticed her take hold of the wooden piece extending out from the sink and lift up her feet and then swing herself back and forth. She showed about as great delight in walking, as in her twenty-fourth month we walked out one afternoon to and up a hill about two miles from our house, and O persisted in walking most of the way, and I had great trouble to get her to let me carry her even part of the way up the hill, and when we got back home she showed by far the least fatigue of any of us.

The child has but three essential functions in life—to eat, to sleep, and to play. One would judge that to make this play the best the child must be with other children. But the small child does not always want this companionship. In this child's twenty-first month she was taken to visit the children on the first floor, but she would not play with them, and when set on a chair by her mother she played there by herself with a doll and some toys, and her mother found her thus in a half hour afterward; she did not care for the children nor want them about her. Also, in her twenty-third month, she would not play with a little girl who came on a visit with her mother one afternoon. Even as late as her twenty-fourth month, when for the first time she was taken outdoors to play, she would not play with the other children, but would run about all the time, never thinking for a moment that she could sit down and rest. Although the next day she got an old spoon and played in the sand somewhat as the other children, yet she would not play with them, and it was not till twelve days after her first going down that she played with them; at which time she played house with a little girl and enjoyed it very much. It is rather striking to note that this little girl would at any time within this year prefer by far to remain in the house with the young ladies of the family rather than to go out to play with the younger members.

Someone has said that very little children think about the angels, and that their dreams are angelic. This may be true of the young infant, but the dreams of older children are at times most disagreeable and unpleasant, and if about angels it must be of the dark ones. This child in her twenty-third month cried out one night in her sleep in so plaintive a way and fretted so as to show clearly that her dreams were bad. This same occurred in her twenty-seventh month. In her twenty-ninth month she was lying one night on her back asleep, when all of a sudden she jumped up with a great outcry, "Mamma—laizh—O-i." We tried to make out what "laizh" meant, but we were unable to do so. She showed that she had been having frightful dreams, and it required quite a good deal of petting and talking to get her quieted.

In her twenty-seventh month O was first noticed talking in her sleep. One night we caught her saying "Do tair" (I want to go downstairs), "Chim" (Jim), "wocky" (rock me). At each time she spoke her mother spoke to her; and although O did not wake, yet she would immediately stop talking and go off to sleep.

Can it be possible that during sleep memory remains dormant, stopping at the point where sleep breaks in and then going on in the same line when sleep is over? This question came upon me while noting the actions of this child. At different times her mother would take her up to rock her to sleep, and promise to take her downstairs at the close of her sleep. The child would go off to sleep with this promise, and immediately upon waking would remind her mother of this agreement. One afternoon, in her twenty-sixth month, upon being taken downstairs to play she found all the children gone, and she seemed so much disappointed that her mother told her they would go with me when I went to play tennis. This pleased O, and she went off to sleep and slept for about an hour, and the first that her mother knew she was awake was when she came into the room and said "Down tair," meaning that she wanted to go. Why should this have been uppermost upon her first waking?

Everyone must admit that imitation is a child's second nature. The child imitates consciously and unconsciously. One Sunday afterdoon in her twenty-second month her mother, counting off O's fingers, recited this counting-out rhyme:

"William, my trim-a-toe,
He's a good fisherman,
He catches hens and puts them in pens,
Some lay eggs and some lay none.
Wire, brier, limber-lock,
Three geese in a flock;
One flew east and one flew west
And one flew over the cuckoo's nest.
O-u-t spells out
With your old dirty dishclout."

On the Friday afternoon following, O was seen to be standing at the kitchen window counting off her fingers and mumbling at each one as if saying over this rhyme. All have noticed how children love to "dress up." In this child's twenty-third month she worked at her hair, trying to fix it like that of a lady's picture in the *Delineator*. Her first time to dress herself up was in her twenty-fifth month, at which time she ran across her last winter's hood, which she put on her head and a woolen ruche about her neck, and she had quite a time fixed up in this way. It is well known that there comes a period in the life of the child during which he imitates the cries of animals. I was greatly surprised to learn that such imitation comes very early in life. In this little girl's twenty-fifth month she was accustomed to see some young kittens in the cellar almost daily. One evening she surprised us by going "mew" like the kittens and "wow, wow" for the old cat. The "mew" was about as near like the little kittens' cry as anyone could make. She got these cries for herself from hearing the kittens and the old cat. Also she made up at this time an "ugh, ugh" in an explosive head tone in imitation of a dog.

Someone has said that the child who is reasoned with is a most hopeless case, and flings mud at a parent who attempts to control his child through his reason. But has anyone the right to claim that a child cannot be governed through his reason just as well as can an adult, for do we not know too little of child-nature to form such a general conclusion? I cannot control my child through her reason because I am ignorant of her powers of reasoning, yet I am beginning to know her better and to recognize that her reasons are in many cases more just than mine. I know that those who adhere to Solomon's "spare the rod and spoil the child" will call this all foolishness. I am pretty nearly convinced that more crimes have been committed based upon this saying of Solomon than in any other direction. If the common interpretation of this saying is correct, then must Solomon be known as the most foolish wise man the world has ever produced, for this doctrine destroys any belief that children have reason; for, deny it who may, the rod is used in ninety-nine cases out of a hundred when the parent is angry, and hence beyond the power of reason. Children can be reasoned with, but it must be in their way and not that of the adult. Laugh at this, but answer me why it may be any more foolish to hold that the adult knows no more about children's reasons than children do concerning adults' reasons. The child is entitled to reason and be reasoned with upon his own welfare, in his own language and understanding. Out of a number of clear cases of strong reasoning powers, I wish to give only one. One forenoon in O's twenty-seventh month, she was standing at the front window looking out at the butcher. She saw him take some apples out of his wagon and start around the house, and in a short time she heard the kitchen door open and close, and knew it was not her mother. In a little while (after he had driven off) she came running into the kitchen to her mother, called out "appy, appy," looked in the pantry for them, and begged her mother till she got one. How foolish and wrong it would be to tell the child that no apples were bought. Just as strong a case of reasoning is noted as occurring as early as her twenty-third month. All have instances in mind where children's reasonings, in cases just as clear as the foregoing, have been denied and the children punished by parents.

This is undoubtedly the age of research work. Experimentation and discovery are exploited as never before. I wonder if our great believers in this search for truth have considered the child as the original, natural researcher? Who experiments more than the child? Who has more need for the making of tests than the child? Every step he takes, every new scene that comes before his eyes, every new sound, is one of a chain of investigations which he must make for himself. Every day of this little girl's life has been a day for the carrying on of experiments. Just a few of these: One evening in her twenty-first month while playing with a tin cup, by accident she held it to her ear. The roaring was something new to her and she put the cup to her ear and took it away for six times in succession, when the novelty wore off, so she stopped. In her twenty-fifth month she was standing at a window with a bright tin can in her hands. The sun shining upon the can was reflected off about the room. O noticed this reflection, and she turned the can this way and that and watched the reflection dart along the walls and ceiling. One day in her twenty-seventh month she was lying on the floor, and happening to look up at one of the window-blinds, she noticed on it a spot of bright sunshine which came through from a broken slat in the shutter. At once she jumped up, went to the blind, and shook it to get the bright spot off. Failing to shake it off, she pulled the blind out and looked behind it at the spot and then she shook the blind again, noticing the moving of the spot. Failing to shake it off at a second trial, she went away from it and did not try a third time. She showed no fear, only astonishment.

One of the most delightful parts of my study of this child has been that of her language. I can only briefly state a few facts about the more prominent things.

The inflectional character of young children's words is fairly well illustrated in her words used previous to her nineteenth month. These words of her fifteenth or sixteenth month were:

Boo-boo, or bu-bu, (u as in brute)=bottle,
Boo-boo, or bu-bu, (" " burn)=burn,
Boo-boo, or bu-bu, (" " pull)=book.

This is, perhaps, better shown by the words used in her twentieth month, as at that time she used "cack-cack-cack-cack" for *candy* and "cacky-cacky-cacky" for cracker, thus inflecting the *cack* in candy by the addition of a *y* to make cracker.

One of the most remarkable things was the loss of words by her. One evening in her twentieth month she was sitting at the supper table, when I said to her, "Don't you want your boo-boo?" She paid very little attention to me, and even when I repeated the question she gave no heed. A little after this I said, "Do you want your bottle?" and immediately she began looking about for it. A half an hour after supper, when she was sitting quietly on my lap, I said to her, "Don't you want your boo-boo?" and she paid little attention. Waiting a short time I said, "Don't you want your bottle?" and at once she got down from my lap and went to hunting for her bottle. As previously stated *boo-boo* was the term used by her about her sixteenth month for *bottle*, and when at that time I would say, "Where is your boo-boo?" she would always search for it, but she had not used this term for some time and we had not used it, as we have avoided using her baby terms.

This incident shows how this child totally lost a word which was used at one time very frequently, and designated an object the dearest on earth to her, for at that time her bottle was her most precious treasure.

The first step made toward the coupling of words is very important in the child's way toward obtaining powers of expression. After this period is passed then the child's progress toward making his thoughts known is very rapid. The first time for O to couple words together was in the last week of her twenty-second month, one night in which she pointed to me and said: "Papa dere" (There is papa). During this same week she began more to try to say words. In the latter part of her twenty-sixth month she coupled words together quite frequently, but made quite a pause between them; usually she used only two words together, and perhaps never more than three, as, "Papa—bopty" (Papa, give me my bottle), "Mamma—down—tair" (Mamma, I want to go downstairs), "Papa—ke" (Papa, look here), "Mamma—cope—baby" (Mamma, I want the comb for my baby).

It appears to be no trouble for the little child to coin words for its use. Sometimes these can be traced to words heard by the child, and again there can be found no reason why the particular word should be so used, and from whence it came. On the eighth day of this little girl's nineteenth month it is recorded that she had not used *boo-boo* and the other words of her sixteenth month for some little time, and at this time made her wishes known by pointing at objects with her forefinger, and at the same time grunting out *en*, the *e* as in *her* and *n* as in *sing*. In her twenty-third month she coined the word *ca-ca*, with which she designated quite a number of things; in this word *c* has its *k* sound, the first *a* is short as in *cat*, and the second *a* is Italian, as in *far;* the first *ca* was spoken in a high key and accented, the second *ca* in a lower key and unaccented. On the fourteenth day of her twenty-fifth month she began to use *appy* to designate apple, orange, banana, and other things. In her twenty-sixth month she used the expression "Papa—ke" (*e* as in *met*) to attract my attention to her jumping up and down on the floor; I think the term *ke* was an evolution on her part from the children's "Look here," as this, said quickly, almost runs into *ke*.

In the study of this little girl nothing else has so surprised me as the growth of her vocabulary. At the beginning of this record, in her nineteenth month, she really had but two plain words in her vocabulary—*papa* and *baby*. In the twenty-first month she used four words, yet upon testing her to ascertain how much she understood, I found she knew seventy-eight objects; I learned this by asking questions, thus, "Where is the chair?" and she answered by pointing to the object. In her twenty-fifth month I took down her vocabulary and found that it had increased to sixteen words. At the close of this record—at two and a half years of age—she used as noted down about 250 words. This record of her vocabulary was made by myself alone during her thirtieth month, and it was not only her usual words that I gathered up, but I set down every word that she used, whether once or many times. None are words which I asked her to say, nor are they names of objects for which she was asked, but they were jotted down from time to time, as she used them of her own free will. Her mother claims that I missed enough words used in her presence to bring the number up to near three hundred. This acquisition is wonderful, and it has caused me to inquire if it would not be possible for such growth to continue in the life of the child, if conditions could be made whereby the child could continue as his own instructor and not to be brought under stupid adult teaching, and thus his progress be continuous and not retarded as is the case now when the child is put into school. How little we know about the child, and how much there is for us to learn concerning him!

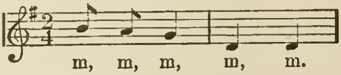
The following incidents give in a most striking manner a glimpse into one side of child-nature which is very peculiar. Fear with children as with animals often appears to be instinctive. The unusual arouses suspicion. One could scarcely expect to find a better illustration of our ancestors in their period of dark superstition than is displayed here in these doings. On the last day of O's nineteenth month she was given a small doll whose arms and legs were made to articulate by being fastened with rubber cords. At first she was delighted with it, but in playing with it she got its arms and legs twisted into peculiar positions, at which she was afraid of it and put it away from her and would not have it near her. At night when the doll was offered to her she ran away from it. The next day when the doll was brought near her she ran out of the room. The next day after this she took the doll and began to play with it, seeming to be over her fear; she drew it up to her to kiss it, and while kissing it, one of its arms swung around and its hand struck her on the cheek, at which she threw the doll from her and began to cry, and her mother had to put the doll away and pet O quite a while to soothe her. In the evening I tried to get O to take her doll, but she would not have anything to do with it. About two months after this, in the twenty-first month, her mother found this doll stowed away and she brought it out for her to play with; its hair had come off, which made it look quite odd. At this time O would not go near the doll nor have it about her, yet two days later she took it and played with it, showing no fear whatever. On the first day of her twenty-first month she was given one of those bags which have the print of a cat upon them and are shaped like a cat. Her mother stuffed it for her, but O was very much afraid of it and it was set out on the kitchen table. The next morning just after O was dressed she went into the kitchen and began to play when all of a sudden she spied this cat, at which she dropped her playthings, ran out of the room crying, and showed great fright. I took her in my arms and got the cat and tried to make her understand that it was only a stuffed bag, but she began to shiver and to show such fear that I put the cat out of her sight. The next day she did not show near so much fear of this bag, and a week later she pointed up to it sitting on the bookcase and went "Wow-wow-wow," upon which her mother held her up to it, and O petted it and showed no fear at all. One day in her twenty-second month she was looking through a magazine when suddenly she jumped up and cried out, "Oh! oh!" and was very much excited and appeared as if afraid of something. Her mother looked at the page but she could not make out what excited the child, when just then O went "Wow-wow-wow," at which her mother knew it was the picture of the cat (stuffed bag) which had caused it. (This page contained an advertisement of this printed bag and of other animals.) In the evening I opened to the page, and upon showing it to O she would not come near it. In the last week of her twenty-eighth month the stuffed cat (printed bag) was given to O to play with, and she seemed in no way afraid of it, but hugged it and kissed it and carried it about just as she would her baby. One forenoon in her twenty-third month I brought this little girl a small plaster-of-Paris dog, of which she was afraid and would not go about it. In the afternoon I found her pulling the books out of the bookcase; upon which I put the dog on top of the case, and told her it was to guard the books, and when she saw it she ran away from the books, nor did she go about them again for fear of this dog. One forenoon in her twenty-seventh month her mother was making up the bed and O was helping her. The feather bed was lying on the floor, and at one time O was noticed to be jumping up and down on something on the bed as though she was trying to kill it, and upon her mother's looking to see what it was she found it to be a feather. Once when O jumped on the feather it flew up and lit on her dress, when she hastily brushed it off and ran off the bed very much frightened. In a short time she ran to the bed and stamped the feather and then quickly ran off the bed, but the stamping caused the feather to rise and her running made it float off toward her, and when she saw it coming toward her she was so frightened that she would not go on the bed again, nor near the feather. A little later I put the feather into the middle of the bed and set the child in on top of it, at which she showed great fear, ran off the bed, and could not be got near it again. Then I picked up the feather and tried to convince the little girl that there was nothing about it to fear, but I completely failed to convince her. Then

I put the feather in the hole of an empty thread spool so that only a small part of the feather stuck out, and I succeeded in getting her to take the spool in one hand while with the other hand she tried to tear the feather out of the spool with a needle, but in no way could I get her to touch the feather itself. About a half an hour after this—after I had left the house—her mother, while sweeping, came across this feather and picked it up, and said to O that it was only a feather, and for her to put it into the stove, and after some pleading the little girl did take the feather, but very gingerly, in her fingers and thumb and put it into the stove.

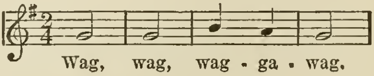
The manifestations of this child toward animals are in many ways quite strange. At some times she is very much afraid of the children's cat, while at other times she will sit by it and pet it. She has always shown great fear of dogs. At first she showed fear of chickens, but one day in her twenty-sixth month the children took her into a small lot among young chickens, hens, and a rooster, which delighted her very much and she cried to stay longer when they took her out. In her twenty-eighth month we went one day to the New England Fair. While going through the sheds viewing the cattle, sheep, and hogs, O showed very decided fear; at times burying her face in my shoulder to cover her eyes from the sight of the cattle. About two and a half hours afterward, after the little girl had had a good sleep, we went back along one of the cattle sheds and this time she showed no fear; and even when some pretty little calves were shown to her she looked at them with delight; nevertheless, the other time I could not persuade her to look at them. A week later, still in her twenty-eighth month, the boys got some toads, and they and the girls played with them, and O enjoyed the sport very much, and in no way expressed either pity or fear, but only pleasure. In the last week of her twenty-eighth month she was shown a mouse in a trap, of which she was much afraid. These fears are to me among the strangest phenomena of child-nature. Just why this child should be afraid of the children's cat at some times, even crying out if it comes not nearer than fifteen or twenty feet, and at other times showing no fear but sitting by it and petting it, I cannot explain. This cat is a great pet with the children. O shows fear and pleasure equally if the children are with her or when by herself. Facts like as this ought surely to teach parents to be very careful in looking after the fears of their children, for there is nothing more dangerous to a child than fright—sometimes even causing idiocy; and no one should be so cruel as to try to overcome a child's fear by placing it in a position which will constantly call up this fear, but teach by gentle means, such as will give time for the child to comprehend and to reason out that there is no need to fear.

One of the noteworthy sides of a child's fear is that pertaining to shadows. In this the child comes in touch with its ancestors of many years ago. The incidents which I relate here are wholly unexplainable to me. I might theorize, or philosophize, which is the same thing, for many a day; yet, I must place these actions of the child as totally among the not understood things of children. One evening in her nineteenth month O was sitting on my lap in a room in which there was no lamp, but a lamp was in the next room, so as to shine through the open door and cast our shadows on a window-shade. I rocked back and forth and held her up in my arms and called her attention to our shadow, at which she looked a short time, and then showed fear and gave request by sounds and signs for me to let her down, which I did. In a short time I raised her up again, and again when she saw the shadow, she was afraid. I went through with this four times, with the same result each time. Why was she afraid? She showed no fear when sitting down on my lap; she had frequently looked at shadows on the wall, and also on this same curtain without showing fear, and she had again and again before this been lifted up high and showed no fear. One night in her twenty-fourth month she looked at her shadow on an open door, and talked to it in her way of talking. She pulled the door out and she was quite astonished to see the shadow move off the door on to the wall, and she pushed the door back again, but, unfortunately, her examination of the shadow was stopped, as the door struck a tin bucket behind it and she went to playing with it. One evening in her thirtieth month she was sitting with her mother in the front room. There was a lamp in this room and one turned low in the kitchen, but there was no light in the dining room between them, except what went into it through the open doors leading into it from these two rooms. O got up and started to go into the kitchen, but when she got about halfway across the dining room she came running back to her mother, crying out, "Winny, winny!" (window, window), showing great fear, nor would she venture into the dining room again. Upon her mother's going out to see what had frightened O she found that someone across in the house next to us was sitting near his window, and between his light and our window, so that in his rocking back and forth his shadow was cast upon our window-blind, and this swaying of the shadow must have frightened O. Something similar to the fear of shadows occurred one afternoon in the last week of her twenty-eighth month. We were out walking, and while passing along a narrow path nearly covered over with tall weeds and made gloomy by a thicket of small trees—at one place where the weeds brushed against her and the somberness was deepest—this little girl cried out as though greatly afraid of the loneliness or the wildness of the place, and she clung very tightly to my shoulder as I was carrying her. She cried out only the one time.

The child is so closely related to nature that he is naturally full of rhythm. His movements are rhythmical, and he takes great delight in music. Rhythm coupled with music was expressed by this little girl in several cases, from which I select the following. Near the close of her second year I sang to her frequently the little exercise songs which were taught to me when a child in school,—"Hold your right hand np," and "This is the way we go to school," which, no doubt, are familiar to all. O enjoyed these songs, and tried to go through the exercises with me, and they furnished her a basis from which to build songs of her own. One day in her twenty-fifth month she hummed the following, using the sound of *m*, repeating the refrain many times:



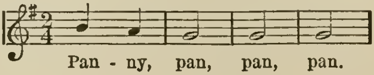
On the first day of her twenty-eighth month while she was sewing she sang as follows:



She repeated this again and again. On the next day she used this same melody, but instead of "Wag, wag, wag-ga-wag," she used "He, he, he-he-he" (*e* as in met) and "Da, da, da-da-da" (*a* as in far). Two weeks later she used the same with "A, a, a-a-a" (*a* as in late).

One afternoon in the third week of O's twenty-eighth month we were all out walking. At two different times while I was carrying O she went "Ta, ta, ta-ta-ta" (*a* as in fat), using this as the tap of a drum in marching. She did this in correct time as I noticed carefully and kept step to her counting—no drill sergeant could have called off better time than she. She did not use her melody, but kept the same pitch for all the *ta's*. The two times of counting were quite a distance apart, and over a half an hour in time apart.

The last week of her twenty-eighth month I observed her playing the piano. She was seated on a footstool before a chair, on the back part of the seat of which she had laid her doll. She would strike the seat of the chair with the forefinger and thumb of each hand, the other fingers being shut in the palm, the hands coming down in unison. She struck the chair at each note as given below, and sang the syllables given. She kept good time, and the hands and voice were exactly together. She repeated the music and kept up the playing until she observed us looking at her, on which she became confused and stopped. This is the melody she used:



This, perhaps, would be better represented in 2–2 time, as it was quite slowly sung.

In her twenty-seventh month she was lying on my lap one evening, being rocked and sung to. At first I sang "Glory, Glory, Hallelujah," and then I dropped the word and used the syllables "tum, tum, tum, etc.," at which she strongly objected by change of countenance and by striking with her hand, and said "sing," when I took up the words "John Brown's Body, etc.," and she settled back contentedly. In a short time I began on "Good-by, my Lover, Good-by," to which she objected and continued to show her displeasure till "Glory, Hallelujah" was resumed. After a little I changed to "In the Cross," but she would not accept the change and only quieted down when "John Brown's Body" went marching on. When I changed to "Rally 'Round the Flag," she was well satisfied, yet when I tried a medley she was much displeased, but "Glory, Hallelujah" quieted her. I tried the changes several times and with different songs, and the result was the same at all times, as she wanted all the time either "John Brown's Body" or "Rally 'Round the Flag," with preference for the first. This trial was kept up for half an hour, when the little girl got off my lap to go and help her mother work. Thus is found here a taste displayed by a child of two and one-fourth years of age, and just as marked as could be that of an adult.

I have not tried to put down matters which were precocious or most wonderful in my observation of this child, but such as came under my notice during each day. This study had been of much scientific worth to me, but more has it been valuable in giving me that better understanding of this little girl which as a parent I so need. I certainly find this a study which has given me a clearer insight of the nature of my child, and has taught me to observe more my bearing toward her, and, I think, it has been for the good of the child.

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VI

BOTANY AT THE GERMAN UNIVERSITIES

American educational institutions have learned so much, and may still learn so much more, from the German universities, that it may not be unprofitable or uninteresting to compare the German methods of teaching one particular branch of science with those pursued in America.

I hope to be pardoned for describing once more the well-known organization of the teaching force in a German university, but I venture the more boldly to do so because certain changes have taken place of late years which are not yet generally enough known.

The teaching force of a scientific department at one of the larger universities (and the smaller ones differ only in the numbers, not in the plan of the organization) consists of one or more full professors (called ordinarii), of whom one is the head of the department and the director of the museum and laboratories, of assistant professors (called extraordinarii), of instructors (called docenten), and of assistants. Of these all except the docenten now receive fixed salaries, though formerly only the full professors and assistants were paid by the university. All except the assistants are required to deliver at least one course of lectures and to have these announced in the list of courses of instruction. Assistants also are, in extraordinary cases, licensed to give lectures. Generally speaking, no one can become an assistant until he has received the degree of doctor of philosophy. To become a docent one must, in addition to having done a considerable amount of creditable original work, pass another and still more searching examination. From the ranks of the docenten are chosen the assistant professors, and the promotion of a docent to an assistant professorship, generally at some other university than the one at which he has been lecturing, depends but little upon influence, mainly and often entirely upon his worth as shown by published work. The title of professor is, therefore, one of honor. The advancement of an assistant professor to the rank of full professor also depends upon merit, not upon age or term of service.

Owing to the large number of candidates for every position, advancement is slow and difficult. The men in the different ranks are from five to fifteen years older than those in corresponding positions among us, and hence, unless a young man have some income other than that of his position, he must look forward to years of poverty before he can attain a position whose income will enable him to live comfortably. One way out of this disagreeable situation is to marry a woman of means; and because of the honor and social standing attached to the rank of docent and professor, many rich women consider it a not unfair bargain to give part of their fortune for the name of Frau Professor, either in prospect or at once.

The only income which a docent officially receives is from the small fees paid by the students who attend his lectures; and the modest salaries of professors are very considerably augmented by the fees of their hearers and of students examined by them for the doctor's degree. One would suppose that there might be danger of a lecturer striving to attract many hearers by making his courses pleasing rather than in the highest degree profitable, but the absence of examinations until the student has prepared a thesis and applies for the doctor's degree, and the importance of thorough preparation for the trying oral examination which he must then undergo, cause him to elect only such courses as are most valuable. The one means of attracting many hearers, and hence of receiving many fees (which are of stated amount), is to present much valuable matter in available form. No instructor is popular because he presents his subject with more attention to form than to matter, or because his students do not have to work hard. The popular or so-called "snap" courses, which are so useful to some American collegians, have no attraction for German students. Such courses owe their popularity to our essentially English, and most un-German, system of frequent examinations.

The teaching force thus briefly described has a much less homogeneous body of hearers than is found in a typical American college or scientific school. In the gymnasium, instruction in the natural sciences is generally better, and more abundant, than in our preparatory schools, though still leaving much to be desired. As a rule the gymnasial instructors in the biological sciences have devoted themselves, while at the university, more to botany or to zoölogy, as their tastes inclined them, seldom equally to both; and this unequal training, often emphasized by continual greater interest in the one than in the other science, causes their instruction to be of less worth in the one than in the other course. So it not infrequently happens that the young university student is well prepared to go on with botanical studies, but has only the meagerest notions of zoölogy, and *vice versa*. Hence it is usual for some member of the teaching force in each department to give, in one semester, an elementary but comprehensive course of lectures which, supplemented by reading, will enable the new men to make up for their previous deficient training.

Another difficulty to be overcome is that, in addition to the comparatively small number of men who elect courses in botany for purposes of general culture, there are some who are going to make botany their specialty. A large majority, however, of the attendants at lectures in botany are men who are preparing to be pharmacists and physicians, and for whom a certain amount of botanical knowledge is indispensable. To meet, then, the needs of these four different sets of men, the more general instruction in botany must be planned. In one of the two semesters of each year, the head of the department gives a series of lectures, from four to six weekly, in general botany, in which he treats, with as much thoroughness as time and the quality of his audience permit, the important problems of morphology, biology, and the elements of physiology. In the other semester, in an almost equal number of lectures, he may give a comprehensive course on the whole series of plants, from the lowest forms to the highest. This is done at most universities. Where there are two full professors, as at Berlin, the general course in morphology is given in both semesters, the two professors alternating. In Berlin, during the alternating semesters, these two professors lecture on their specialties. In some universities, instead of the comprehensive course on the classes of plants, the professor lectures in alternate semesters on the fields of inquiry which he especially cultivates. For example, in Leipsic the general course is given in summer (at seven o'clock in the morning, six times a week!); a course on vegetable physiology, admirably illustrated by experiments on the lecture-table, being held in the winter semester.

These two great courses given by the head of the department are the introduction to all the rest. They are necessarily elementary, they cover much ground and hence cannot be exhaustive; but they are valuable to all from their originality and suggestiveness, being by no means merely compilations from text-books, but embodying the results of original, often at the time of delivery unpublished, investigations. The beginner gets from them what he needs, the elements of the science; the most advanced student enjoys them, for they embody much more of the lecturer's personality and methods of thought than corresponding courses at American colleges usually do.

So far as I am aware, there is no course of lectures offered at any German university which really continues the general course just described. In a well-organized American college the courses in botany fall naturally under three heads, elementary, intermediate, and advanced. In Germany these terms are inapplicable; the courses are either general or special. The one general course given in each semester is elementary, intermediate, and advanced, all in one, in that it is intended to meet the needs of men whose previous knowledge and degree of interest are very varied. To be taken after this are special courses, varying in number at different universities according to the number of teachers, and varying in matter according to the special interests of these teachers; yet in almost every university two sorts of special lecture courses are given: those which are purely scientific, and those which are of practical value. Under the latter head are courses on systematic botany, in which those plants or groups of plants receive special treatment which are used in medicine, manufactures, and in daily life; others on the bacteria and yeasts; others on horticulture, etc. In the purely scientific courses there is, apparently, no attempt at system. Each instructor lectures, from semester to semester, on whatever most interests him: on a special group of plants, on geographical distribution, indeed on an endless variety of subjects. This freedom is a boon to the younger teachers, especially the docenten; for, by preparing themselves with more or less thoroughness on a different subject for each semester, they are enabled, in the course of a few years, to acquaint themselves with nearly the whole field of botanical knowledge. This is accomplished at the expense neither of their hearers (if the courses are really good, and they generally are), nor of their own time for research.

Because there is no progressive sequence among the lecture courses, it is impossible that the special courses should not be in a way elementary, though, at the same time, material which is valuable to the most advanced students is presented in them. The laboratory courses are not closely related, as a rule, to any lecture courses, nor to one another. So far as I have been able to learn, there is at no university a course in gross anatomy and morphology such as supplements or forms a part of the elementary course in botany at an American college. It is assumed that at the gymnasium the young man has familiarized himself with the structure of seeds, and with the general forms of roots, stems, leaves, and the reproductive organs of higher plants, or has at some time studied them for himself. The first laboratory course which the beginner in botany is likely to enter is one in which the compound microscope is used from beginning to end, a course in histology, the material for which is chosen from the whole vegetable kingdom, and during which the ignorant man sees a bewildering variety of structures of which he can have only the vaguest idea, unless he complements the brief informal talk of the instructor or assistant at the beginning of the hours of section-cutting, looking, and sketching, by thoughtful and abundant reading. Given either alternately or, in some universities where students and teachers are many, simultaneously with this course, is one on the means of reproduction of higher and lower plants. These two courses are general, more or less elementary, and necessarily superficial; they are followed by no definite courses of instruction in which the student can add to and properly arrange what he has learned in them. He must do this as best he may, without system, though not without help from instructors and assistants.

Special laboratory courses are offered, and these, like the special lecture courses, are economic or purely scientific in nature. The microscopic study of drugs and foods, and the common adulterants of these, is possible at nearly all universities—an example after which American colleges may well pattern; for although few college graduates now become druggists, yet it is desirable that the instructors in the various schools of pharmacy should be men of broader training than is offered by the schools and by the practice of the shop. Courses in the determination of higher and lower plants, in microscopical technique, in the elements of physiology, are more or less generally offered; courses in determination being given, at least in summer, in almost every university. It is the admirable custom for one of the instructors to conduct on Saturday afternoon (or Sunday, if to a considerable distance) during the summer semester, excursions to places of special botanical interest, for the purpose of studying plants under their natural conditions, of investigating these conditions, and of collecting material. Use is also made of the botanic gardens and greenhouses not only as sources of material for laboratory study, and of interest and instruction for the general public, but for demonstrations to classes also.

By attendance at the stated lecture and laboratory courses, by independent reading and observation, and by the generously given but also generally unsystematic instruction in the laboratory, under the head of the department and his assistants, the student sooner or later arrives at such a stage of advancement that he is allowed to begin an investigation which will furnish the material for a thesis. Since a thesis is indispensable for admission to examination for the doctor's degree, it is the desire of every industrious student to finish his preliminary work as soon as possible, and to begin collecting data for his thesis. The speed with which he may reach this stage of advancement depends upon himself only; for not until he shows himself mentally fit, will he be allowed to undertake an investigation. If this time never comes, he never begins research work. Not by merely passing the examinations at the end of specified graded courses, as in America, can he present himself to his professor with a demand for admission to a course of research—a demand with which the unfortunate American professor usually must comply. One of the most difficult and painful tasks for the teacher, yet one which he ought oftener to perform, is to tell a student who mistakenly fancies himself fitted for a certain special work—the ministry, the law, teaching—that his talents lie in quite another direction, and that the continued pursuit of his present course will be only time thrown away which may be spent profitably otherwise. This the German professor can and does do, either directly or indirectly, oftener than his American colleague, greatly to his own and the unfortunate student's advantage.

When a man begins his "Arbeit," the subject of which is selected in consultation with his professor, he begins to receive the finest training which he will ever enjoy. This training may not, generally cannot, be broad; for breadth he must look out himself (and he generally does not); but it will be very thorough along the chosen line. He will come into at least daily conference with his professor; he will learn how, not merely what, that learned man thinks; he will learn to be more critical, more ingenious, more patient, more thorough. This training through personal contact will last at least a year, perhaps two, and in this time the young man, who till then may have plodded on without much enthusiasm, should become aglow with interest and energy, the best that is in him will be given a chance to develop, and he ought to come through the dread ordeal of the examination at the end, not merely a doctor of philosophy, but a man who is self-dependent and clear in thought.

Plainly there are many advantages and disadvantages in the German arrangement of courses and methods of instruction, but before we may fairly decide what these are, I must beg to remind the reader of certain facts. The main aim of the German university, even of the philosophical faculty, is not to make teachers, but rather to train men to think intelligently and independently, so that, in whatever sphere of activity they may be, they may be careful, discriminating, and productive. If to train teachers were the main object, as is sometimes asserted, then the choice of professors is made on erroneous principles. A man is made a professor not because he teaches classes well, but because he is a brilliant investigator. Few investigators of renown have the pedagogical faculties greatly developed. I remember hearing President Eliot say once that the most inspiring teacher he ever had was one who excelled the others as an investigator. In this statement we have the key to the German idea of university teaching; it is not so much to impart facts in encyclopedic quantity and arrangement, but rather to present such facts, and to present them in such a way, that the hearers will be stimulated to study for themselves. I have seldom left a German lecture-room or laboratory with the satisfied and inert feeling which is the consequence of a hearty meal, mental or physical; often, however, with more hunger for knowledge, and more energy to acquire it, than when I entered.

Furthermore, the university teachers of all ranks are expected to be productive of original works; they must lecture, but they must also investigate. Did a professor ever wish to tell his students all about a subject, his original work would suffer, and so he refrains from excessive teaching. As a result, his lectures gain in originality, he still has time and energy to advance human knowledge himself, and he can effectively train others to do the same.

The German system then, as so often stated before, allows trained men time enough to advance human knowledge, and it stimulates those students who will ever be intellectually productive, to study for themselves, first to complete their own knowledge of general principles, and then in their turn to advance knowledge. Another admirable feature is the prominence given to the economic and practical aspects of the science, whenever this can be done without unfitting the courses for university ends.

Perhaps the greatest fault is that only by special and too great exertion can the younger students acquire anything like a complete knowledge of botany before they begin to specialize. By far the larger number have no great desire to acquire a well-rounded knowledge of their science, feeling satisfied with their special knowledge of a particular part. If a man, after passing the doctor's examination, chooses the university career, he may then attempt to complete his knowledge. The most active assistants and docenten do this by vigorous reading, and the latter, as I have pointed out before, by preparing lectures from semester to semester on some, to them, new part of the science. The less energetic young men are one-sided, and satisfied to remain so. Even now one hears of the older professors: "Oh, yes, he is a systematic botanist, and doesn't know anything about histology," and of the histologist that he doesn't know anything about physiology, and of almost everyone that he is not broadly critical. These are exaggerated statements in many cases, but with enough of truth in them to show that the Germans themselves recognize the narrowing influence of their system. Although it is quite true that no man's authority can be equally good in all the departments of botany, if his authority is to be good for anything in any one, yet it is not impossible for a man to acquire a broad and thorough knowledge of the whole field, so that his special knowledge of one part may be the richest of his mental treasures, not his only one. Indeed the foundations for such a well-rounded knowledge may be easily acquired, and in Germany as nowhere else; for, by spending a few months under each of the four great leaders in botanical investigation—Strasburger, Pfeffer, Goebel, Engler—one may learn these men's methods of thought and work sufficiently to be able to understand, even if not to attack, the problems of histology, physiology, morphology, and classification, and at least to respect and to sympathize with these different kinds of workers. By such a many-sided experience can one best prepare one's self to be a botanist, not merely a member of a certain school.

For the young man who has received thorough and broad instruction in the principles of his science, and who wishes to be trained as an investigator, Germany will remain the land to which he will desire to go until, in America, those men who inherently are the equals of the German professors as investigators are relieved from much of the general teaching which keeps them now unproductive, except as wholesale distributors of knowledge. The logically related courses in botany at our best colleges furnish a better preparation for subsequent investigation than the unarranged courses at the German universities; but in Germany the professors are able, because they are not overburdened with elementary work, to give much attention to their own researches and to the investigators under them.

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VII

DISCUSSIONS

COLONEL PARKER'S REVIEW OF FRYE'S *PRIMARY GEOGRAPHY.*

After reading and strongly dissenting from Colonel Parker's wholesale condemnation of Frye's *Primary geography* in the November number of the REVIEW, I was glad to receive from the Editor a request to prepare "an examination of Colonel Parker's review . . . to appear in the January issue." I cordially join with a number of teachers and other critics, in the opinion that of all introductory geographies, Frye's is "the best book that has yet been made." On the other hand, I must dissent from nearly all the criticisms in Colonel Parker's review, because they seem to me to be based so largely on an undue magnifying of trifles; on an unfair inaccuracy of reference and citation; on matters of personal preference; and on an unsatisfactory measure of what a text-book for young children should attempt to accomplish. The review is not impartial: it does not give a fair idea of the book; it does no sufficient justice to the good work that Mr. Frye has accomplished; its tone is depreciatory rather than judicial.

It is extremely unfair to characterize the style of the book as "a sort of namby-pambyism." While there are in certain chapters such sentences as "He is making a pretty mat of grass for a bed"—which I presume suggested Colonel Parker's characterization—the style of the book as a whole is certainly simple and clear, and attractive to children. As a sample of particularly good treatment, I would refer to the page on the Poles (p. 22).

It is an undue magnifying of trifles to object to the statement that "the long slope of South America is east of the Andes" because the long slope is really east of the crest of the Andes. Such criticism should be left to book-agents, who do not seem to have either mind or soul above quibbles. It reminds one of the objection raised by an agent to the statement that "the water of the Nile overflows its banks"; the

Nile being a river necessarily consists of water, and hence it is not right to say "the water of the Nile"! Commenting further along on the statement that "Hills, mountains . . . and valleys make rough places on its [the earth's] surface," Colonel Parker says: "It is generally supposed that heat and erosion are main factors in *making* hills and mountains." The words "generally supposed" give a derisive quality to this comment that is unwarranted. Common usage, in such phrases as "Stones make the streets rough," justifies Mr. Frye's wording, even if it is not the one that all writers would choose.

Examples of unfair inaccuracy of reference and implication are unhappily frequent in the review. Quoting the paragraph, "In some places there is a thin layer of fine rock or soil over the solid rock," Colonel Parker says: "This is all very well for New England, but it is rank heresy for Illinois." Yet in the text the word *thin* is used in contrasting the soil-cover to the whole earth, and it is perfectly correct in such a connection. Further on, the reviewer says: "After p. 86 . . . the child is brought back to the old-fashioned study of location upon maps that contain no sign of relief." This is simply not true. After that page, there are at least half a dozen maps on which the more important features of relief are indicated in the ordinary fashion by hachures. "There is no relief map of the United States," but there is a full-page relief map of North America. The reviewer says: "There is no pertinent suggestion of the relation of the United States to North America." The book says, "The United States includes the middle part of North America and all Alaska" (p. 86), and refers in a footnote to a map of the continent.

Colonel Parker says there is "no suggestion that New England is a part of the whole continent of North America; no idea of what slope it is in; no general questions in regard to its structure, climate or vegetation." Now whether one is satisfied with Mr. Frye's treatment of New England or not, these statements are most unfair. They give an utterly wrong impression of the book. In the first place, on a page previous to those referred to by Colonel Parker in this condemnation, there is an inset map of the New England States alongside of the whole United States. Within the pages so severely condemned, the following statements are found: "The mountains of New England are part of the Appalachian Highland. The

Atlantic slope is here from fifty to eighty miles wide." "Most of the surface of New England is hilly. The western part is crossed by mountains." "This group of States is in the cool belt. The summers are short but hot. The winters are long and severe." "In the north half of New England there are dense forests of spruce, hemlock, and pine. These forests form part of the timber belt which stretches across the northern portion of the United States"; and the following paragraphs give accounts of the timber industry, with mention of sugar maple, oak, ash, birch, beech, and elm; as well as grain, tobacco, fruits, hay, and potatoes; but it is added that "most of the food supply for New England comes from the West and from Canada." "Except in a few places, the soil in New England is poor. Farming does not pay so well here as it does in some other parts of the country." Is there any shelter for Colonel Parker's inaccuracy of citation and implication in the fact that the subjects of "structure, climate, and vegetation" are treated in the text and not put in the form of "general questions"?

Of all the erroneous statements in the review, perhaps the most audacious and glaringly unfair one is the following: "From p. 86 on, this geography is simply a repetition of the many geographies that have been put before suffering children during the last fifty years." Let anyone who has memorized the "wheat, corn, oats" rigmarole of the separate States in the older books turn to the intelligent accounts of the products of the United States as a whole on pp. 92–99 and see if they are "simply a repetition," of what he studied in school twenty or thirty years ago. Look at the accounts of foreign countries, and note the constant reference to their position in the belts of heat, as a device for presenting them in a proper relation to the earth as a whole. Look at the pages on our chief cities, with their excellent illustrations. There are of course many examples of "On what river is Montreal?" as there must always be; but it is utterly unfair to characterize this part of the book as "simply a repetition" of older books.

Colonel Parker says: "The author has little faith in the development of the subject [surface forms of the great land masses and their relations to each other] by means of his 'world ridge' map, judging from the text, which is exceedingly meager and insufficient. . . Nothing is done to interest the children in the 'world-ridge.'" Turning to the book, I find three pages given to the world-ridge, in its passage around the world; and this is followed by nearly two more, briefly characterizing the slopes that descend from the ridge. Shortly after, the continents are described in twenty-one pages with repeated references to the "world-ridge" and its slopes. At all stages of this account are found pictures and "stories," that is, little items of information to interest the pupil and detain his attention. For example, under the Andes highland (p. 25), the stories concern the llama and silver ore; under our Western plains, there is mention of the large herds of cattle that graze there; and so on. The statements of the review, "meager and insufficient," "nothing is done to interest the children," are unjust.

That the "stories" will interest children in the study of the general form of the land, we have the assurance of Colonel Parker himself. In his book, *How to study geography*, the following suggestions are appropriately introduced in a general account of South America: "The story of the Incas and the Conquest of Peru by Pizarro may be read to add interest to the study of the Andes. Tell pupils about the mountain knots and valleys in the Andes, about silver mines, etc. . . The llamas and condors of the Andes . . . are all very interesting subjects, and descriptions of them will assist in making the mental pictures of the structures clearer" (pp. 221, 223). Why, then, does Colonel Parker write, in commenting not upon his own book but upon Frye's: "The author throws in a few lines about the Andes highlands, then switches off upon the more interesting burden-bearing llamas and precious silver ore." "Switches off" is a very derogatory manner of describing what Colonel Parker himself so strongly recommends in his own book.

Several statements in Colonel Parker's review are so distinctly matters of personal opinion that they cannot serve as a basis for an emphatic condemnation of Frye's book. It is asserted that the substance of the book "has no pedagogical connection or relation whatever." The book "fails utterly in anything like pedagogical relation." "There is no relation or suggestion of relation of plant life to the unit [the earth as a whole] which the pupil should 'have before his mind.'" If I were now reviewing Frye's *Geography* instead of reviewing Parker's review of Frye's *Geography*, space might be given to estimating the pedagogical quality of the book; but here it is sufficient to describe these quotations as entirely unjustifiable.

Colonel Parker condemns, although in a milder manner than characterizes his review as a whole, the plan adopted by Mr. Frye—as well as by many others—of introducing an account of the earth as a whole before studying the continents. My own belief is strongly on Mr. Frye's side, and I am sure that many teachers would accept his method without hesitation.

The review says: "It is to be seriously questioned whether a faithful study of the lines of the text [the first part of the book about surface-forms] would open the way to prolonged investigation." Whatever "prolonged investigation" may mean, there can be no question that the first part of the book will open the study of geography to school children in a most atractive manner. An excellent variety of facts is presented in simple language with accurate and effective illustrations. It is from just such beginnings that children should go on to the study of the later pages and of later text-books. Yet these pages are referred to as giving "mere dabs at subjects." They are really brief accounts of the essential preliminary facts. Of course they are not exhaustive in method; there is every reason that they should not be; but to call them "mere dabs" is most unjust. The reviewer states that "The climatic and meteorological environment of the child is of immense importance; and eight years of profitable investigation and direct objective study of the phenomena of heat, air, and water should be made. The author dismisses thsee subjects in four pages, and gives us no hint in regard to further study." The very sufficient reasons for such brevity of treatment are that a small book, meant for about two years' study, must condense the topics that it treats; that a larger book for later years will expand the treatment here begun; and that much of the "eight years of profitable investigation" concerns matters that would be rendered valueless if they were presented on the pages of a text-book. They must be left to the teacher. In a much earlier part of the book, the keeping of a weather record has been suggested; in the *Teacher's manual* which goes with the book, these records are stated to be of high importance, and reference is made to the observational study of the angular altitude of the sun during the year. These subjects are not dismissed in four pages; they are opened in four pages.

Having already exceeded the space suggested by the editor, I must conclude by expressing my most serious regret that the influence of Colonel Parker's name should have been lent to the support of a criticism so prejudiced and one-sided as that which occasioned this article.

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SOME INTERESTING STATISTICS

The *University Record*, published at the University of Michigan, November, 1894, contains statistics of the courses offered in each subject in the Literary Department for the second semester of the academic year 1893–94, with the number of students pursuing each course. Modern languages lead in the number of students, with the total enrollment of 1518 in French and German. The total for Latin and Greek is 662. Combining the courses under general headings, the twelve favorite subjects with the number of students registered in each are as follows: French, 782; German, 736; English, rhetoric, oratory, and elocution, 679; history, 648; mathematics, 508; physics and chemistry, 447; engineering, 447; Latin, 432; political economy, 387; philosophy, logic, and psychology, 372; drawing, 259; Greek, 230.

Thomas Bertrand Bronson

Lawrenceville, N. J.

VIII

REVIEWS

Methods of education in the United States—By ALICE ZIMMERN, Mistress at the High School for Girls, Tunbridge Wells. New York: Macmillan & Co., 1894, 178 p. $1.00.

The training of teachers in the United States of America—By AMY BLANCHE BRAMWELL, B. Sc., Lecturer at the Cambridge Training College for Women Teachers, and H. MILLICENT HUGHES, Lecturer on Education in University College, South Wales and Monmouthshire. New York: Macmillan & Co., 1894, 198 p. $1.00.

The education of girls in the United States—By SARA A. BURSTALL, B. A., Mistress at the North London Collegiate School for Girls. New York: Macmillan & Co., 1894, 204 p. $1.00.

These three books are the outcome of brief visits made to this country by the writers in the summer of 1893, on traveling scholarships of £100 each, established by the Gilchrist Trustees. Miss Zimmern spent May, June, and July here, and has, in consequence, written the best of the three books. Miss Burstall spent two months here, and has written the next best book. Misses Bramwell and Hughes arrived in New York on May 29th and apparently sailed late in July or very early in August: their book is the least satisfactory of the three.

Any reports written as these are can only be mere impressionist sketches. They show little or no grasp of the principles that animate American education and no familiarity with the best and ripest American thought on education. Unfortunately the time of year chosen for the visits was anything but the best. The higher institutions were closing their sessions, and the Chicago Exposition was exercising a more or less disturbing influence. Then, again, these women visited too many separate institutions to get any but a confused impression. It cannot be too strongly insisted upon that the foreigner visiting the United States to study its educational system should seek good advice, and study patiently and in detail a few typical institutions. as well as confer at length with some or all of the very small group of men who are leading American educational thought. The outcome of such a visit would be far more profitable than that of one made up of a sprinting race over the country. Miss Bramwell and Miss Hughes, for instance, naïvely sum up their visit to New York as follows: An interview with Superintendent Jasper, a few minutes at the Normal College, two or three days at the Teachers College, a hasty visit to Columbia and Barnard Colleges, and a "still more cursory glance" at the University of the City of New York, and an afternoon spent at the Press Club Fair. Of course, except at the Teachers College, they saw and learned absolutely nothing; there was no time.

Nevertheless it would be unfair to give the impression that the books are of no value. The writers are trained and experienced teachers, and some of the larger features of American education were observed by them and are acutely commented upon. Miss Zimmern, for example, at once saw the great contrast between English and American teaching. It lies in the nature and aim. The English school, as a result of the awful examination system, aims at written work; the American school, at oral work. American pupils *do* more in school than their English cousins; they talk more, use the blackboard more, move about more. The great enthusiasm that exists in this country for education, and the seriousness of it, made a profound impression upon all of the writers.

Miss Burstall, perhaps, more than any of her colleagues, caught sight of the facts that the universities and colleges are the dominating forces in all grades of American education; that teachers' associations and societies exercise an enormous influence for good; that despite the lack of a national system of education the national practice is substantially uniform; that the closer correlation of the various grades and types of school is a pressing problem of great importance: and that Pestalozzi, Froebel, and Herbart are not mere names, but real forces, in American education.

Different classes of readers will be attracted by different features in these three books; but all of them are decidedly worth reading at least once. N. M. B.

Symbolic education. A commentary on Froebel's Mother Play—By Susan E. Blow. (In *International Education Series*). New York: D. Appleton & Co., 1894, pp. 251. Price $1.50.

As appears from the title, this book is a commentary on Froebel's *Mutter-* and *Koselieder*. But let no student of any phase of higher education imagine, therefore, that it is of no practical importance to him. The editor, Dr. Harris, seems to me, in his Preface, to have commended it to too narrow a constituency when he says that he trusts "that it may be kindly received by the large and increasing class of persons interested in the kindergarten." For whoever is interested in educational ideals is interested in this book, since it is in Miss Blow's eloquent and vivid exposition of Froebel's educational ideal that one of its great merits lies.

And surely there is need of such an exposition—need that all students of education shall ponder it. From the primary school to the university it is hardly an exaggeration to say that nine-tenths of our schools are concentrating their attention upon the memory of their pupils, and that nine-tenths of the remainder forget that there is anything of their pupils but an intellect—something that perceives and remembers, and compares and judges and thinks. That they have bodies, that they have sensibilities and wills, the proper training of which is a matter of paramount importance, are facts that receive scant practical recognition at the hands of the great majority of American teachers. We are ready enough to *say* that education means the harmonious unfolding of inherent powers. But when asked what we mean by it, our answers often, and our practice still oftener, clearly indicate that the development of which we are thinking is of the intellect alone. We applauded President Hall when he said that our schools have no right to teach reading without doing much more than they now do to direct the taste and confirm the habit of reading what is good rather than what is bad. Might he not with equal propriety have said that our schools have no right to develop the intellect of their pupils without doing much more than they now do to determine that their intellectual powers shall be put at the service of cultivated wills under the guidance of refined and noble sentiments? Horace Mann, we remember, held that beyond the time of entrance to college "none but the virtuous, the earnest, those who give confident promise of righteousness or right-doing, should be invested with the prerogatives and enchantments of knowledge."

Miss Blow expounds as Froebel's educational ideal the idea of man as *Gliedganzes*—a whole that is at the same time a member of a larger whole. Man is not only an individual, he is a member of a family, of society, of a nation, of the human race. Ignore the universal element in him, treat him as though he were a Robinson Crusoe out of all relation to society, and you follow the teachings of Rousseau, who held that as the solitary man is the ideal man, the solitary education is the ideal education. But the logical outcome of such a conception is not solitary education—in which, from the nature of the case, the social side of man must be utterly neglected—but no education at all. For as education is the intentional and systematic influence of one or more human beings on another, it can only be given as man is a member of society. Ignore the individual element in man, treat him as though he were *only* a member of society with no life of his own and for himself, and "you lapse into the Orientalism of education. For granting validity to institutions without perceiving that they exist both in and for the individual, you see in your pupil not an end but a means, and strive not to develop him" from within, "but to mold him by external pressure into a prescribed form." "See man as he *is*, actually a member, ideally the whole of humanity," and the problem of education at once becomes definite: how to bring the individual and society into perfect harmony, how to make the life of the individual contribute in all respects and at all points to the life of the race.

Very instructive is the contrast between Pestalozzi and Froebel. Each laid great stress on immediate perception. But Pestalozzi would have us begin with perception because he thought it the source of all knowledge; Froebel because he wished to "lead the pupil from the immediate object of sense backward to its producing cause, and forward to its ideal aim." Each laid great stress on self-activity. But it is the activity of the intellect that is prominent in Pestalozzi's thought, while with Froebel the activity of the intellect is of little value unless it has its roots in elevated sentiments and tends to express itself in noble deeds. "With Pestalozzi the great word is sense-impression; with Froebel the great word is self-expression"—better still, perhaps—self-creation *through* self-expression. Each laid great stress on the ideal of education as the harmonious development of inherent powers. But because Pestalozzi was dominated to a large extent by the atomism of Rousseau, he was never able to unfold the implications of his own ideal. Not until it is seen that the secret of man's being is only revealed in his social, universal nature can the meaning of harmonious development be understood.

Then it is seen that true development is one in which the whole man and society have equal interest, because it is one which aims to bring the two into perfect harmony.

I have left no space to speak of Miss Blow's interpretation of the methods by means of which Froebel sought to lead children in the direction of this ideal. One may think much of the theorizing of both master and disciple fanciful in the extreme—we certainly do—but with the fundamental conception of the *Mutter-* and *Koselieder* as responses to hints "of need given by the child," hints which "are the buds which show where a new branch or twig is ready to burst forth upon the tree of life," we are in entire sympathy. Fortunate will it be for society when not only kindergartners but teachers generally are on the alert for these hints of need by the child and the boy and the young man. Then the "inevitable battle" between the particular man and the universal man will be fought out, not in the world but in the soul. Then "the puny individual" will cease to "defy the external embodiments of his own ideal nature" because the two will be in harmony.

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Bowdoin College, 1794-1894—General catalogue, including a historical sketch of the institution during its first century, prepared by George Thomas Little, Librarian. Brunswick, Me.: Published by the College, 1894, 328 p. [For sale by W. B. Clarke & Co., Boston, Mass. Price $1.00.]

It is manifestly from books like this, and that of Williams College already noticed in this REVIEW[1] that future historians of American education are to derive their most valuable and authentic information concerning the growth of the American colleges. The loving care that the editors devote to the minutest detail, and the faithfulness with which every change is recorded, make these books historical *Quellen* of the first order.

Bowdoin College, as Mr. Little points out, differs from most other American institutions of similar character in not owing its foundation to individual munificence, or to denominational zeal, or to a pre-existing academy. It came into being in response to a widespread demand on the part of the inhabitants of the District of Maine for a college within their own borders. In those days the journey from Portland or Lewiston to Boston was a considerable undertaking; and, plainly, unless the higher education was brought to the youth of Maine, it

[1] VIII: 303

must remain beyond their reach, for they could not afford to go to it. On June 24, 1794, the agitation resulted in a legislative charter for Bowdoin College, so named in honor of Governor James Bowdoin, the friend of Franklin and Washington. From that day to this the college has been a splendid example to its fellows. Sound learning and sturdy character have distinguished its alumni, and they have risen to posts of honor and distinction in various parts of the country. Its faculty has been a notable one. Chadbourne, Brackett, Goodale, and Morse were successively professors of natural history. James McKeen, E. R. Peaslee, and Fordyce Barker have occupied chairs of medicine. Longfellow was for six years professor of modern languages. Upham, Samuel Harris, Mark Hopkins, and Ladd have taught philosophy; Egbert C. Smyth and ex-President Chamberlain, rhetoric; Roswell D. Hitchcock, natural and revealed religion.

To-day Bowdoin is more prosperous and efficient than ever before; continuing to grow on its present lines, a career of unlimited usefulness is still before it.

N. M. B.

Latin at sight: with an Introduction, suggestions for Sight-reading, and Selections for Practice—By EDWIN POST. Boston: Ginn & Co., 1894, 210 p.

For several years past increasing attention has been given by Latin teachers to sight-reading. The result of from six to ten years of Latin study has not appeared to be commensurate with the time allotted, especially when compared with its control over French and German, which is secured in a much shorter time. And, indeed, it is something ridiculous that after many years of toil the average Latin student should be driven to his lexicon and grammar if he would know the meaning of a bit of law Latin or the like; the demand is urgent that students should know the language and be able to use it, and not merely "go through" or "read" a few selections from the literature with the aid of editions favored by teachers *plus* author *plus* Bohn.

Of course, in the better schools and colleges more or less attention has always been given to sight reading; still not until 1886 was public attention called to its desirability by Professor Hale's *Art of reading Latin* and Mr. Tomlinson's *Selections for sight-reading*. Professor Hale's pamphlet is still of great value; Mr. Tomlinson's book belongs to the pioneer stage. Professor Fowler edited *Curtius* for sight reading in 1890, and the remarks on the subject prefixed to his edition by Professor Greenough are helpful; Professor Greenough himself brought out an *Eutropius* in 1892, which is No. 1 in a series of pamphlets intended to furnish a graduated course of sight reading. Then in 1893 Professor Westcott's *Stories from Aulus Gellius* came, and in 1894 Professor Platner's *Pliny* and Professor Drake's *Phædrus*. Several other books have recently appeared or are promised, notably Peck and Arrowsmith's *Selections* and Flagg's *Nepos*. If the quick response of publishers is any test, sight-reading is certainly a demand of the times. Strangely enough, there seems to be no corresponding activity among the teachers of Greek, although many a middle-aged teacher or preacher would be glad to learn to read Greek in this reasonable way, and to make up for the lost or misapplied time of his boyhood. The introduction to Professor Post's book is just what the hesitating teacher needs, whether his hesitation be due to a doubt of the advisability of sight reading, or, what is more profitable to inexperience, is conducting classes in such work. The selections themselves number 182 and are drawn from the whole field of classic and post-classic literature; anecdotes from *Cicero*, fables from *Phædrus*, yarns from *Gellius*, and even some waifs and strays from Jacob's *Latin Reader* are mingled with gossip from *Suetonius*, and legends from *Livy* and *Eutropius*. The reading gradually increases in difficulty; and the notes, which are placed under the text, give the aid which is needed; translation, of course, being the only object in view. Each selection has an English title prefixed, and as a rule the author is happy in his choice; for instance *Political virtue versus practical politics* introduces *Nepos on Aristides*; yet to call Milo a "sporting man" (p. 76) or to describe how "Damocles lost a dinner" (p. 145) has a vein of infelicity. It is to be regretted that the quantities of its vowels have not been marked in the text; one who is so far in the van of progress as to edit such a book must be acquainted with the equally strong tendency to secure proper pronunciation of Latin words. But the book may be recommended as thoroughly good for the purpose it is intended to serve.

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NOTES ON NEW BOOKS

The mention of new books in this place does not preclude extended critical notice hereafter.

The splendid *History of Greece* by Professor Holm is being brought out in an English edition of four volumes (New York: Macmillan & Co., 1894, vol. i., 432 p. $2.50). The first volume traces the development to the end of the sixth century B. C. Professor Holm's work is alike indispensable to the specialist and attractive to the general reader.——Nothing at once so scientific and so simple as *Physiology for beginners*, by Professor Michael Foster and Dr. Shore of the University of Cambridge (New York: Macmillan & Co., 1894, 241 p. 75 cents), has appeared on the subject. It is unreservedly commended as a text-book for secondary schools. It is happily without any reference to the half-proved and unprovable nonsense about the effects of stimulants and narcotics on the human system that American writers and publishers have permitted to disfigure text-books of physiology, in response to a sentimental movement for "temperance" teaching.——Professor J. Shield Nicholson's lucid address, before the British Association at Oxford, on *Historical progress and ideal socialism* (New York: Macmillan & Co., 1894, 67 p. 90 cents), has been brought out in separate form. The author thinks that Mr. Benjamin Kidd overlooked the significance of modern European armaments when he based so much on the present "unexampled development of humanitarian feelings."——In his *Age of Pope* (New York: Macmillan & Co., 1894, 258 p. 50 cents) John Dennis has made a useful study of Pope, Prior, Thomson, Addison, Steele, De Foe, and others which, we are delighted to find, is intended for students "who love literature for its own sake, instead of regarding it merely as a branch of knowledge required by examiners." It will be interesting to observe how English schoolmasters receive so startling an innovation as this.——Mr. James Bonar has edited a very interesting and handsomely printed *Catalogue of the library of Adam Smith* (New York: Macmillan & Co., 1894, 126 p. $2.25), that is of interest to students of history, philosophy, and economics, alike.——President Thwing, of Western Reserve University, issues a series of short essays on the higher education of women, with the title *The college woman* (New York: Baker & Taylor Co., 1894, 169 p. $1.00).

IX

EDITORIAL

On November 30 the president and secretary of the National Educational Association issued a circular letter stating that the executive committee had voted unanimously to hold the meeting of 1895 at Denver, Colo. The council will meet on July 5, and the general association on July 9.

It is made evident by expressions received from various parts of the country that this choice is very popular, and that no effort will be spared by anyone to make the meeting an unusually large, enthusiastic, and representative gathering. The invitation of the Denver Chamber of Commerce and of Superintendent Gove was most cordial, and already they are actively at work in preparation for the meeting. The railroads leading to Denver are taking a lively interest in the matter, and their co-operation has been formally and unanimously voted.

The Eastern States that were roused to enthusiasm by the Asbury Park meeting, the always loyal States of the Mississippi Valley, the South and Southwest, as well as the Pacific Slope, will all send large delegations, and it is confidently expected that a programme of great interest will be presented. Unusual pains will be taken to secure strong and well-organized meetings of the several departments, and no one who can possibly make the trip will have cause to regret it.

From very small beginnings the Association of Colleges and Preparatory Schools in the Middle States and Maryland has become a strong and well-balanced organization. Its sixth annual convention was held on November 30 and December 1 at the Johns Hopkins University, and attracted a large number of college and preparatory school teachers. Not fewer than three hundred delegates gathered in Baltimore to attend the sessions. The president of the Association, President Patton of Princeton, was absent, but his place was ably filled by Chancellor Holland of the Western University of Pennsylvania, who proved a most excellent presiding officer, enforcing the time-limits and conducting the business with firmness, dignity, and tact.

The programme contained three topics: The place and teaching of history and politics in school and college; the report on college admission examinations in English; and the future of the college. To each of these topics an entire session was given.

Professor H. B. Adams of Johns Hopkins University introduced the first subject in a scholarly paper that presented the view that history is past politics, for which his own department has stood for many years. Professor Robinson of the University of Pennsylvania next urged that the sources, or *Quellen*, be used in teaching history, and pointed out how this can be accomplished. Principal Henry P. Warren of the Albany Academy, in an address of great vigor and marked literary excellence, outlined admirably the sort of history that a well-organized secondary school can teach and ought to teach. Mr. Samuel E. Forman of Baltimore read the last paper on "Civics in secondary schools." The subsequent discussion emphasized the view, common to all of the papers, that a broader and more human view of history is necessary, and that the secondary schools have even more to accomplish than the colleges in the matter.

At the next session the report of the special committee, appointed in 1893, on college admission examinations in English was taken up. This report was printed in the EDUCATIONAL REVIEW for September last. Professor Stoddard of the University of the City of New York, the chairman of the committee, presented the report with an explanatory statement. He was followed by Professor Bright of the Johns Hopkins University, Professor Bliss Perry of Princeton, Mr. Wilson Farrand of the Newark Academy, and Mr. Percival Chubb of Brooklyn. Of these Professor Perry and Mr. Chubb were new to the association, and both gentlemen made a most favorable impression. Everything that was said was in favor of the report and, upon a vote being taken, it was adopted unanimously.

In this matter Professor Stoddard and his colleagues have performed a great public service. By securing the co-operation of the New England schools and colleges, and by drawing a report that commended itself to the college teachers of

English in the Northwest, they have secured a substantially uniform treatment of English as a school subject over the entire North and West. English, therefore, after years of experiment and diverse treatment, is now to be added to Latin, Greek, and mathematics, as a subject whose status is substantially agreed upon by all schools and colleges. The modern European languages, history, and the natural sciences are yet to secure similar formulation.

At the evening session Professor Remsen of Johns Hopkins University kindly accepted an urgent invitation to address the association, taking the place allotted on the programme to the absent President Patton. His general subject was the proper place and function of the college. The essential distinction between the college and the university was insisted upon, and Professor Remsen emphasized the fact that if the college did not cease raising its standards for admission, it would legislate itself out of existence; for students would pass from the secondary schools directly to the universities.

The echo of Professor Remsen's paper was heard at the next session when the college itself was the topic for discussion. Mr. Talcott Williams of the Philadelphia *Press* read a very careful statistical paper, bringing out clearly the fact that the main strength of every college is drawn from its immediate locality. President Sharpless of Haverford, in a very wise and temperate paper, outlined the proper function of the small college. One of his sentences that provoked applause was this: "If unhappily called a university, make apology for holding the title so long, and give it up"—a sentence which is cordially commended to the attention of the governing boards of about one hundred and thirty misnamed institutions in this country. Presidents Warfield of Lafayette and Stryker of Hamilton closed the discussion.

During the meeting the Johns Hopkins University, the Woman's College, and Bryn Mawr School united in extending courtesies to the association.

Before adjournment a committee was authorized to formulate a plan for collecting and classifying college statistics. This committee, which may accomplish some very important reforms, was subsequently constituted as follows: Professor R. P. Falkner of the University of Pennsylvania, Professor Richmond Mayo-Smith of Columbia College, Principal C. H. Thurber of Colgate, (N. Y.) Academy, Mr. T. W. Sidwell of the Friends School, Washington, D. C., and Mr. Talcott Williams of Philadephia.

Three important reports have been issued during the past month: those of President Gilman of Johns Hopkins, President Low of Columbia, and President Schurman of Cornell. Columbia and Cornell being institutions of similar scope and standing, the reports of their presidents have much in common. President Low traces Columbia's growth from a merely local college to a budding university with a mature constituency, and shows that while from 1892 to 1894 the attendance from New York City and Brooklyn has grown from 908 to 1005, that from other parts of the country and abroad grew from 665 to 800. The unwise and very confusing system of organization that Columbia has fallen into (and which it must certainly give up sooner or later) makes analysis of the purely university work almost impossible. The seniors in the college are confused with graduate or university students, and the same student appears in a number of different registration lists, sometimes three or four. In the whole university 535 students are returned as holding "first" degrees; but obviously there must be subtracted from this total the 2 that have B. D., the 3 that have B. S. A., the 7 that have C. E., the 1 who has E. E., the 11 who have LL. B., the 1 who has M. B., the 3 who have M. E., the 2 who have Mech. E., and the 21 who have Ph. G.—for none of these more or less amusing designations are degrees at all, and none of them stand for anything remotely resembling a liberal college education. Subtracting these 51, there are left 484 students who have a bachelor's degree of some recognized form. But it seems impossible to ascertain from any of the tables presented how many of these are in the graduate school, or university faculty of philosophy proper. This faculty, it will perhaps be remembered, is at Columbia cut up into three parts or divisions, and the practice of plural registration deceives the public without enlightening it. This same lumping of all academic or non-academic titles together as degrees vitiates all of the statistical and percentage tables in the report. It is possible to tell at a glance how many university students are enrolled at the Johns Hopkins or in the graduate division at Harvard, but careful study of President Low's figures has failed to give this information for Columbia.

For Cornell, President Schurman reports 287 students in the graduate department; but unless our interpretation of the last Cornell catalogue is at fault, there is the same mixing-up of "first" degrees there as at Columbia. College presidents and faculties may rest assured that they would gain much for their institutions by absolute frankness and directness in these matters. A large registration list is not in itself an index of prosperity and worth; something more is needed. It would be a very easy matter to inform the public frankly how many students, *having had a liberal college education*, are engaged in the advanced and special work of the university. And it need not be a matter of great difficulty to give the precise number of those college graduates who are in residence for the sole or chief purpose of engaging in the work of the faculty of philosophy.

The report of President Gilman is wholly free from these faults. One learns from it, specifically, that of the total enrollment reached in 1893–94, 522, no fewer than 344 were college graduates enrolled under the faculty of philosophy. Mr. Gilman notes also some important modifications in the group-system as it has hitherto existed in the undergraduate department of the Johns Hopkins.

All three of these reports deserve careful study, for they touch upon or discuss many points of interest. But space only permits reference here to their statistical features, and these are selected because it is concerning them that the greatest dissatisfaction is expressed every year. The Association of Colleges and Preparatory Schools in the Middle States and Maryland has appointed a strong committee on college statistics, and it is to be hoped that their recommendations will provide a way out of the difficulties referred to above.

◆

The annual football craze has come and gone, and the effect has been distinctly to lower the colleges in public estimation. It is perfectly possible to recognize this fact without taking any extreme view as to the game itself. Yet no one but a partisan of the present order of things will deny the correctness of the position of the New York *Sun* when it says: "In the simple bluntness of truth, football is the most brutal exercise ever permitted outside of the Roman circus, or of such relics of savagery as the 'purring' practiced by the

British miners." This brutality is inherent in any game that brings the bodies and fists of excited antagonists into personal collision. The ball itself is of little importance, and almost any other symbol would do as well—except for the formality of kicking goals and for punting. Brute force is the essential element in the contest. Of course the claims continually made by college professors that football is a great moral agent, and by alumni that it fosters "college spirit," deserve and receive no attention whatever from intelligent people, for they proceed from victims of the mania. It is not even demonstrable that in the long run—unless American parents are curiously constituted beings—success at football will increase the attendance at a given college. That it produces a temporary "boom" is perhaps true; but after all colleges are educational institutions and not palestræ, and will be judged as such.

The football demoralization has extended from the college to the preparatory school. The head teacher of an important academy recently said that because of football it was impossible to get any satisfactory work out of his boys until after Thanksgiving. This, it will be observed, shortens the school year by more than twenty-five per cent.

What is to be the end of it all, is the question that many persons are asking. The game need not be abolished, but it can be reformed by changing the rules so that it will be really football, and not a wrestling and boxing match. But whether reformed or not, the college faculties now reposing in cowardly security must either assert themselves and subordinate athletic contests to education, or else lose any little prestige and influence that the events of 1892, 1893, and 1894 have left them. The last thing for them to do is to spring to the defense of a brute who makes a public exhibition of his brutality. Happily the University of Pennsylvania, Cornell, Brown, and other colleges have come upon the scene in time to save Yale and Princeton from the disgraceful prominence toward which they were fast tending. Now that the teams of other institutions are seen to be able to compete on equal terms with the former champions, there will be a shifting of interest in the doings of the colleges that make a specialty of athletics that will be advantageous for all concerned because it will hasten a return to the former standard of judging an educational institution by its educational ideals and efficiency.

Among the many good results that ought to follow from the political overturn in November last are the reform of the public school system of New York City and the taking of the State superintendency out of politics. For the former the outlook is very encouraging. The Committee of Seventy have appointed a sub-committee of five to recommend desirable legislation for the city schools, and that sub-committee has indorsed, for excellent reasons, the bill prepared a year ago by Mayor Gilroy's commission and already made familiar to readers of this REVIEW.[1]

Should this admirable bill become a law New York will have a system of school administration in line with modern educational thought. The Ward Trustees with their petty tyrannies and their jobs will be abolished. A board of superintendents, trained experts in education, will have immediate control of the instruction, and a well-devised system of district visitors—to be called trustees—will provide for the prompt exposure of any abuses that the authorities may be disposed to conceal or condone.

Acting under the power-of-removal bill, Mayor Strong should promptly remove every single member of the present Board of Education and appoint their successors from the very best elements of the community. It is no doubt true that there are a few upright and intelligent members of the present board, but they are all under the influence of a thoroughly bad system, and ought to make way for entirely new blood. The new board will have to take the responsibility of inaugurating the new system. Their first and greatest task will be to select a Superintendent of Schools worthy of the great place that the new bill makes for him. No position in the country offers greater opportunities for usefulness than this will, and it ought not to be impossible to fill it with the best man in the United States.

To take the State superintendency out of politics is the duty of the Legislature. The way to do it is to transfer the power of appointment to the regents. But coincident with this the life tenure of the regents should be abolished and their number reduced to, say, fifteen. By proper management these changes can be effected by practically unanimous consent, and New York State's school system will have taken one more long stride forward.

[1] VIII: 1

At the meeting of the Department of Superintendence held in Boston in 1893, a committee consisting of fifteen members was appointed to prepare a report on three questions: the correlation of studies, the organization of city school systems, and the training of teachers. The members of this committee are Commissioner Harris, and Superintendents Maxwell (Chairman), Seaver, Balliet, Tarbell, Poland, Brooks, Jones, Cooper, Gilbert, Greenwood, Powell, Lane, Dougherty, and President Draper. But slight investigation of the field of inquiry was needed to convince the committee that it would be unwise to make a report until after the Report of the Committee of Ten had been made and pretty thoroughly discussed. The members, therefore, contented themselves with making personal investigations for several months without any attempt at concerted action. Subsequently, at a meeting held in Richmond, Va., in February, 1894, questions on the subjects under discussion were formulated. These questions, which have already appeared in this REVIEW,[1] were sent to prominent educators throughout the country with the request that, wherever possible, conferences be organized, and the results of these deliberations laid before the committee. The National Council of Education, during its meeting in Asbury Park, July, 1894, gave its formal approval to the work, and the directors of the National Educational Association voted an appropriation of $1000 to defray the necessary expenses.

The Committee of Fifteen held an important meeting in Washington, D. C., on the 10, 11, 12, and 13 of December. Many important and valuable reports from conferences and papers by individuals, in answer to the questions sent out, were considered, and finally, after discussions prolonged through ten hours each day, the skeletons of three reports on the three main questions were adopted. While much difference of opinion was elicited on minor details, the more important parts of the reports are the result of substantially unanimous action. These reports are now in process of elaboration by three sub-committees made up as follows:

City school systems—Draper (Chairman), Seaver, Lane, Poland, Powell.

Training of teachers—Tarbell (Chairman), Brooks, Balliet, Dougherty, Cooper.

Correlation of studies—Harris (Chairman), Greenwood, Gilbert, Jones, Maxwell.

[1] VII: 413

The reports will be presented to the Department of Superintendence at its meeting in Cleveland in February next. An entire session will be devoted to the discussion of each report. It is proposed to present the full text of these reports in the EDUCATIONAL REVIEW, though the committee will ask to be continued with power to make further researches and to modify their conclusions, should they, after the discussions at Cleveland, see the advisability of so doing.

The meetings of the Department of Superintendence will be held, as previously announced, on the 19, 20, and 21 of February, at Cleveland. In addition to the reports of the Committee of Fifteen, the following subjects will be discussed: How to test the quality of a teacher's work; Individualism in mass education; Powers and duties of State superintendents; Recent improvements in primary school work; Changes wise and unwise in grammar school work; The teaching of history in schools with reference to the Report of the Committee of Ten. Each session will be devoted to the consideration of a single subject, and it is announced that the speakers will be kept rigidly to the time limit, so that there will be ample opportunity for debate and the expression of opinion.

Among the names on the preliminary programme are those of Commissioner Harris; Presidents Draper, Payne, and De Garmo; Superintendents Gove, Peckham, Leipziger, Warfield, Cole, Bright, Preston, Marble, Search, and Jones; Professors Hinsdale, Albert Bushnell Hart, Frank M. McMurry, and Kiehle; Colonel Parker, Miss Arnold of Minneapolis, and Inspector Hughes of Toronto. It may be predicted with reasonable safety that the sharpest discussions will follow Dr. Harris's report on the correlation of studies and Superintendent Search's paper on individualism in mass education. These papers alone should attract an unusually large attendance from all parts of the country.

EDUCATIONAL REVIEW

FEBRUARY, 1895

I

THE EDUCATION OF THE NERVOUS SYSTEM

Education consists in modifications of the central nervous system, the cell elements of which are peculiarly fitted for this experience. They are plastic in the sense that their connections are not rigidly fixed or limited, until quite late in life; and they remember, or to use a physiological expression, tend to repeat, previous reactions. By virtue of these powers, the cells can adjust themselves to new surroundings, and learn to respond with great precision and celerity to such impulses as are familiar, because important.

In its size and development the central system is precocious. Long before birth, all the cells destined to compose it are already formed, though by no means all are developed, in the sense that they have acquired the form and functions characteristic of them at maturity. At the close of embryonic life the sensory nerves rapidly extend, and the connection of the central cells with the limiting surfaces of the body being thus established, all experiences become those of education. The act of living is thus a natural educational process of the very greatest importance; yet it is usual to restrict the term education to a series of much more formal events, falling within the period of school-life.

Formal education, as such, may have objects which are quite as distinct as those of gymnastics and athletics, in the field of muscular training. In their extremest forms these two aims are distinguished by the fact that the athletics or technical training fits the individual to do some one thing which in his day and generation is considered desirable, while the culture or gymnastic method seeks to round him by the better exercise of weaker points, so that his activities may be more complete. In earlier education, the culture method, though often disguised, is yet the one mainly pursued, and it is the significance of this method which will here be considered.

In the development of the central system, it is found that an anatomical framework is first formed. In this framework are represented, in outline, the nerve structures whose functions are most fundamental. These with later growth are locally strengthened and organized, and by the establishment of associative paths, gain both a wider influence and greater complexity of reaction. In the history of this unfolding of the nerve centers, atavistic tendencies crop out. Most interesting perhaps are the prehensile capacities of the great toe, and the clinging powers of infants during the first four weeks of life.[1] These capacities, like the sucking reflex, disappear sooner or later, leaving no traces behind, but there can be little doubt that proper examination of the centers concerned would show a peculiar histological basis for the reactions. It is but rarely that a vanishing power can be thus tracked, yet there is ample suggestion that many ancestral phases are for a time exhibited and then outgrown by the maturing brain.

In development sensibility comes first. Indeed the sensory system in certain human monsters may be well developed, although both central and motor elements are quite wanting. To this general sensitiveness, evident early in fetal life, and without which the central system ceases to be significant, there are rapidly added, about the time of birth or shortly after, the more special sensations of taste, smell, touch, hearing and sight, and temperature. Then, as organization progresses, come the emotions of fear, astonishment, anger, closely followed by development of the intellect and will, with the power of language and self-consciousness. This is not the place to essay the reduction of all these various expressions, intended to indicate grades of mental development, to their physiological equivalents. Since, following birth, the special senses first become useful, the various reactions of the individual are customarily associated with sight or hearing. That this is somewhat a matter of chance, the education of all defectives shows. The development of the parts of the brain devoted to the mediation of the special sensations, like hearing and sight, is rapid at first, then slow, yet continuous up to maturity, as is shown by the continuation of cortical growth. With the refinement in sense perception and the accompanying central changes comes a corresponding increase in the control exercised by the motor elements, and in the elements theselves an increase in the strength, accuracy, and speed with which they respond.

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[1] Robinson, *Nineteenth Century*, May, 1891

Such is the development from the standpoint of the increasing organization of the system at large. Among the sensory and central constituents are changes of a different sort. In the very young the mental processes are limited by the fact that memory is very poor. As this power increases it becomes possible to hold the mental image for a longer time until finally a large fraction of the mental operations involves the employment of such images, which may be present in the terms of any sense. Thus the child first receives impressions which are quickly lost, then those which are remembered for a time, and finally accumulates a store of memories which enter as modifying factors into all subsequent mental activity. Advanced age has it in common with childhood that the images are easily mislaid, but, when available during the period of senescence they are more complete. The study of sensory aphasia, designating by this a loss of the power of recognition or expression consequent on injury to the sensory or central elements, has helped much to the understanding of the manner in which these mental images are constructed. Analysis indicates that the notion of a brass bell is built up from its smell, taste, temperature, weight, shape, color, and the sound it makes, though the information obtained through the eye and the ear is that on which we commonly rely: but a blind-deaf person would emphasize the other sources of information. When an impression has been received from a bell the fact may be indicated, by a sound; the name, or an imitative noise; or a gesture of some sort; a picture or a written word. In the ordinary right-handed person, it is the injury to the left cerebral hemisphere between the sensory and motor regions that most often gives rise to symptoms of aphasia. The symptoms vary with the location and extent of the lesion, but depend on the stoppage or diminution of the nerve impulse at some point between its arrival at the cortex and its transfer to the efferent cells, used for the response. The study of aphasic patients has brought out the fact that any one or more of the several events involved in recognizing the bell by means of the principal sense and expressing this recognition in the usual way, by the written or the spoken word, may drop out. So, for example, the patient may be unable to speak or write the word "bell," when a bell is simply seen, but at the same time, be able to do both, if it is also heard. Or the sound may elicit only the written but not the spoken word, and so on through the possible combination of sensations and forms of expression. Thus the impulses reaching an expressive center, and proving too weak to cause the discharge of it, may still prove efficient if combined with the corresponding impulses from another sensory center to which the object also appeals. It is therefore the passage of impulses from all the sensory centers stimulated by the object that gives the basis for the most perfect response. Clinical studies of the kind furnish grounds for the idea that the presentation of an object to any one of the senses revives the mental image of that object in terms of the other senses which may be, and formerly have been, excited by it, and that the more vivid these associated images, the more complete and clear is the conception. When the possibility of forming the extra images is curtailed, the conception becomes weaker, more special, and less reliable. When the sight of the bell causes it to be named, the changes in the brain are not duplicates of those occurring when the sound of it has led to the same reaction. In the two cases the same expressive centers have been directly roused by *different* sets of fibers, one from the auditory and one from the visual centers, and the secondary revivals have been correspondingly modified. The bearings of these facts are very wide. Among mammals it is a familiar observation that some, like the rat, are dependent on the sense of hearing, or like the cat, on that of sight, or the dog on that of smell. This means that the mental images which rule these animals are in terms of the dominant sense; and anatomically, that the cortical centers for the dominant sense are those best connected with the motor areas. When men are compared, there are possibilities for very wide differences in these arrangements, the eye rather than the ear being generally the dominant organ. Something of this arrangement is doubtless due to training, but probably much more to anatomy. It is interesting to note that in these days of printing a large proportion of our second-hand information reaches us through the eye, while in earlier centuries the ear was the main channel. Further, owing to anatomical peculiarities, an individual may be persuasive with his pen, and yet a doubtful orator. Such everyday combinations can be easily explained. A given sensory center in the brain is not connected impartially with either the center for the movement of the hand and arm in writing, or that for the muscles of phonation used in speech; but wide differences in this relation may exist, so that the speaking and the writing man are somewhat different persons. From this standpoint the working value of the mental images appears as dependent on the number and balance of the secondary sensations which accompany them. The greater the number of these, the more certain and precise is our thought. For this reason, the development of the intelligence is associated with the perfection of more than one sense organ, whereas reliance on a single avenue of sense, while it may lead to very precise reactions, graded in accordance with the intensity of the single sort of stimulus, leaves us without those fringing sensations which form the basis for distinction and comparison necessary for a judgment

In biological equations the values of the different factors are often normally open to wide variation. I have elsewhere[2] insisted on the threefold composition of the central system, one division afferent or sensory, another central or distributive, and the third, motor or efferent; each one of these divisions being represented by a distinct anatomical portion. It is readily seen that an unusual degree of responsiveness among the central cells gives us the intellectual type of reäction. Where the efferent portion is well organized, there are found the anatomical conditions for the man of affairs or action, while exaggeration of the afferent or sensory component leads to a purely passive existence, or to hysteria, according to circumstances.

The connection between the exercises of formal education and brain change is not a very close one. It is not known how years of schooling affect the central system, and it is not probable that we shall soon arrive at facts of this sort. Available, however, are the facts of anatomical growth during this period, and to these plausible explanations may be given.

The aim at the moment, therefore, is to determine what limitations anatomy places to the educational process, and thus to obtain a rational basis from which to attack many of the pedagogical problems. It appears probable that the education of the schools is but one, and that too rather an insignificant one, of many surrounding conditions influencing growth. The average individual is first subjected to some formal training when about three years of age. At this time the *number* of cell elements is complete, and the history of future organizations is in broad outlines determined by their first arrangement. Examination shows that but a fraction of the elements have begun to develop, though growth is everywhere visible and some of the most precocious elements have attained almost their final size. The encephalon at this age has more than two-thirds its adult weight. It is during this last stage of the growing period, which to be sure may continue into the forties, that formal education is called upon to modify the central system. There are anatomical reasons for thinking that this later organization demands but slight increase in weight, though having much effect on the possible reaction, because, although many nerve elements are in the granule stage of development and without prolongations, yet others possess prolongations which have taken all but the last step necessary to the establishment of full functional connections with neighboring cells, and hence the constructional change demanded is, for such cells, very small. The motive to this change in any part of the system is probably the improved circulation giving a larger supply of blood, and the direct action of the nerve impulses putting the cells in a chemical condition to best make use of the surrounding nutriment. Such being the conditions, two things must happen. Education, coming so late in the history of growth, must fail to produce any fundamental changes in the general architecture of any system, but to some extent it can strengthen formed structures by exercise and in part waken into activity the unorganized remnant of the dormant cells. No amount of cultivation will give good growth where the nerve cells are few and ill-nourished, but careful culture can do much where there are those with strong inherent impulses toward development. On neurological grounds, therefore, nurture is to be considered of much less importance than nature, and in that sense the capacities that we most admire in persons worthy of remark are certainly born rather than made.

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[2] The reference is to a forthcoming book on *The growth of the brain*, of which this is a chapter.

Among children there are the widest variations in congenital composition of their central systems, and similarity is neither desirable nor liable to occur, save among the members of the same family, or, better still, in some cases of twins. It has been made probable that, by the cultivating processes of school-training, the formed structures tend to be strengthened, dormant elements roused to further growth, and organization made more perfect in this or that direction, according to the nature of the exercise. By strengthening the formed cells their powers of differential reaction, of organic memory, and resistance to fatigue are increased. By associating given sets of muscular reactions with given sense impressions, habits are established in consequence of further organizations among the elements, and finally, nutritive rhythms associated with the periods of activity and rest appear, with the result of economizing the bodily energy and rendering its expenditure more effective. In general, the power of sense discrimination increases with age, because such discrimination depends mainly on central arrangements, which are not fully elaborated in the earliest years; but where it depends on peripheral arrangements, the power may really decrease. Thus Czermak has brought forward evidence that the power to discriminate two points on the skin is rather finer in children than in adults, owing to the better innervation of the skin in the former; for, as growth proceeds, the skin increases in area more rapidly than the nerves which supply it increase in number. In the power of discrimination based on the condition of the peripheral sense organs will probably be found the anatomical condition in large measure controlling the scale of human performance. Here we have in mind the size of things made by man, ranging from the minute and painfully accurate constructions to the broad and carelessly general. Perhaps the extreme scales found in painting and sculpture will best illustrate the point.

While, in long periods, fatigue in mental operations can be demonstrated, in short periods the results are not so clear, owing in part to the complication caused by the daily rhythms. Moreover, in the longer tests it is difficult to give proper values to the quantitative reduction in the work done and at the same time to the decrease in accuracy, since the two do not run a parallel course. Ebbinghaus' most elaborate experiments on memory are here in place; they show the easy onset of fatigue following such tests, and the enormous value of exercise, alternating even with lengthy periods of rest. Bolton, who studied in scholars from eight to fifteen years of age, the memory span, for a series of digits up to nine, found the length of the span, as well as the accuracy of the reproduction of any series, to increase with age. These improvements in the central cells find an equivalent modification in the motor elements. Grigoresce examined a number of children of the ages below given to determine the strength of their grip as shown by the dynamometer. The figures expressing the power of the grip for each year are in every case averages of a hundred observations.

Age	7 years	8 years	9 years	10 years	11 years	12 years	13 years	14 years	15 years
Strength, Kilos of Grip	12.21	13.97	16.52	19.17	20.58	20.97	22.13	27.21	33.04

To be noted in this table is the remarkable increase during the fourteenth and fifteenth years, equal in amount to that occurring in the previous seven. In *The autobiography of a strength-seeker*, Windship records most astonishing gains in strength later in life. The case of Windship is certainly exceptional, but has some interest by reason of the fact that, though these gains are always a mixed result of changes in the muscle as well as the central nervous system, yet the later in life they occur, the more the central system must be held responsible for them, since the muscles soonest reach a limit of growth.

If we recall the sudden strength of very moderately developed men during attacks of maniacal frenzy, it will serve to suggest the latent possibilities resident in the central system.

In all functional activities a tendency to the formation of habits occurs. Concerning these associations, there is one feature of much educational importance, generally recognized, to be sure, but which at the same time has been made more clear by the investigations of Bergstrom. In these experiments the attempt was made to sort as rapidly as possible a pack of cards, placing the single cards in piles according to suit. Another pack, with the cards in a different order, was then taken and the experiment repeated. This second trial took much longer than the first. The increase in the time was found to be due, not to fatigue, but to certain associations formed during the first sorting, whereby a given suit was connected with a pile having a given location on the table. In the second pack, the order of the cards being different, the suits on the table were differently located, and the memories of the first associations still persisting, they directly interfered with the second performance, causing false movements and so increasing the time. The demonstration here of the loss of energy in learning what needs only to be unlearned is very striking; and if one experience can produce such an effect, it is easy to understand how habits early formed, and long cultivated, become so difficult of eradication. With habits come rhythms in activity, and granting the importance of these, the training should be so adjusted as to catch the system at the most favorable moments. In the history of organization there are naturally many errors, happily for the most part transient. Here belong all those vague suggestions of a second personality, which in growing children are so perplexing and so numerous.

Sometimes these peculiarities periodically recur, and at adolescence they are most accentuated. They represent the disharmony of those changes leading to progress, and like mirror-script, gibberish talk, and the various forms of general inanity, are but intermediate phases between the imbecility of the infant and the intelligence of the adult. Exercise carried on during the growing period leaves its trace, and conversely we should hardly expect much appreciation of color in a person brought up in the dark, however good his natural endowments in this direction. Thus, any lack of early experience may leave permanently undeveloped the appropriate centers in the central system, a condition of much significance; for each locality in the cerebrum is not only a place at which reactions may occur, but also one through which pass fibers having more distant connections, and its imperfect development probably modifies the association value of these as well. It is generally recognized that the work of thinking can be carried on in terms of the several senses. By way of practical application of this idea, Fraser has made an examination of certain philosophic writers which indicates that individuals and schools prefer sense images of one mode in their speculative thought, others taking a different mode. Much of the failure of these writers to be mutually comprehensible depends on the fact that mental images, like the tactile and visual, for example, are by no means capable of manipulation in the same manner, and hence, what was conceivable in the terms of one sense was often not so in those of the other. With the exclusive employment of one sort of mental image, comes precision, but it is precision gained at the price of limitations. Fortunately the law of the diffusion of incoming impulses normally works against a too great specialization in this direction. Yet in the highly defective, this specialization must be carried very far, and in those whose endowments are distinctly unusual the dominance of one sense in controlling the reactions of the central system may rise to the dignity of a deformity.

It would be a palpable truism to insist that persons are very different in the anatomy of their nervous system, and hence in their nervous activities, were it not that educational practice appears so often to start with contrary assumptions.

The description of racial differences is a literature by itself, and the traits of widely separated classes in the same community are almost as different as those of races. In Bavaria, Ranke found the cranial capacity of the town-people distinctly greater than that of the peasants in the surrounding country; a relation which probably means that in general the better endowed individuals sought the severer struggle of the town with its greater excitements and compensations. Should it turn out on further examination that some of the lower races lose their capacity for later training after adolescence, we should look with interest at the cerebral cortex in order to determine whether growth there practically ceased at this time. Recent observations show that in Europeans the brain continues to grow beyond the twenty-fifth year. Venn, studying the size of the head in Cambridge students, found it to be on the average greater in the group of more successful men, and to increase in them for a longer period than has been elsewhere found. Yet the intellectual accomplishments of this fortunate group have no ethical significance. They may be admirable, just as are the paces of a well-bred colt, but the colt deserves no credit for its gait. Indeed, the observation of Ranke, just quoted, stands as an anthropological vindication of that tendency to use native endowments, so as to get from them all the stimulation of which our sensory system is capable. It is a deeply seated impulse. The defective sense organ or the paralyzed limb are treated very roughly by its owner in the vain hope of getting a sensation from them. It would appear that the parts of the nervous system cut off from their normal stimuli may, so long as they are alive, cause much discomfort, and the individuals possessing them resort to indirect means to get rid of the resultant irritations. The obverse of this condition is the "breaking out" experience so common in all communities of growing individuals. In prisons, schools, and similar institutions, where hard physical exertion is not compulsory, or the routine is deadly monotonous, such explosions are bound to occur. Some years ago, when college athletics were coming into vogue, Professor Richards pointed out that college rows and disorders fell off as athletics came in. It is not easy to make experiments of this sort, but there is no doubt that, during the growing period, this surcharging of the nervous system, though not regular, is an event to be expected, and may take almost any form in its expression.

In this connection the consideration of the problems of education as modified by sex forms an important topic. While, from the anthropological standpoint, there is a typical man and typical woman for each race, these are not the same for different races. In the secondary sexual characters there are some distinctions of general applicability; for instance that women are on the average smaller than men. Stature and weight are, together with proportion, the best marked secondary characters by which the sexes are distinguished, and yet these overlap in every way. Among the secondary characters are those of the nervous system, and there we find a similar overlapping. There is no question about the fact that women have on the average smaller brains, though the record from a better class of women than those furnishing the data now employed, would perhaps raise the average. This small absolute weight is in no wise mitigated by the observation that the weight of the brain as compared with the weight of the body is greater in women than in men, for it can be easily shown that if this were a criterion, we should all bend before the massive intelligence of the new-born child whose proportional brain-weight is six times greater than that of the adult. The suggestion has been made that the female brain is lighter because its structural elements are smaller. The only interpretation that we have for the size of these elements is as an expression of the power to store and discharge force in a short period of time and to furnish branches for structural connections. Such a brain of small elements, no matter to which sex it belongs, has the same characters, but so complicated are the reactions of it with nutritive conditions that any inference from the mere size of the mass has little value. If the inference from brain-weight were applied thoroughly, mental superiority would reside with the tall as contrasted with the short men, since, as a rule, tall men have the heavier brains. Size, therefore, has a meaning of either more or larger structural elements, but it is by no means entitled to dominate the whole interpretation of the central system. There is little or nothing in the proportional weight relations of the female encephalon to show it different from that of the male. In reaction, however, the female has a more local responsiveness than the male, and back of all this is the matter of general physiology, which has its distinct modifications according to sex. Moreover, it is impossible to escape the conclusion that in women, natural education is completed only with maternity, which may fairly be laid under suspicion of causing more structural modifications than are at present recognized. Basing the inference on the size of the structural elements, we should infer that the typical central system in the female would be somewhat more easily fatigued, and also exhibit less complete organization. For the rest we have no anatomy, and only modes of reaction on which to base a judgment. These modes seem in part to depend on fundamental physiological differences; in part, on the organization of the central system; and in part, on nurture. Just how far any variations in this last condition will modify reactions of women is at present a matter of experiment—an experiment in which the question of brain-weight has far less significance than was at one time thought.

Whatever power be chosen for consideration, the process of education must be much influenced by mental ripening. The child may be precocious or backward. It is interesting to note, apropos of what has been said concerning strength and size, that precocity is for the most part concerned with an early increase in the complexity rather than the strength of the reactions; it is a precocity of organization, not of size. Moreover, it is wont to appear along limited lines only. Physiologically, it is growth without the usual sensory provocation, and as such renders superfluous much of the formal training, the purpose of which is to stimulate. Hence the ease with which these individuals may learn some things. The best studies on the subject show that precocity and genius go together. The same conditions which gave the individual a generously planned nervous system also favor its early development. In such precocious persons it tends to grow for a longer period than usual, a feature which is fully as important as the precocity itself. It is extremely interesting to see how, among a series of eminent men, excluding men of action, the determination of distinction follows the order in which the brain normally attains the high development necessary to command recognition in a particular profession.

Table based on 287 cases analyzed by Professor James Sully	*Gave promise before 20 years of age*	*Produced before 30 years of age*	*Attained distinction before 40 years of age*
Musicians	95 per cent.	100 per cent.	100 per cent.
Artists	89 "	98 "	160 "
Scholars	83 "	71 "	90 "
Poets	75 "	92 "	92 "
Scientists	75 "	80 "	92 "
Novelists	75 "	56 "	80 "
Philosophers	67 "	56 "	60 "

Those professions demanding only small acquisition but a very perfect adjustment between one sense organ and one set of muscles, as between the hand and the ear, in the musician, and the eye and hand in the artist, are precocious throughout, while the philosophers, with their need for accumulated information and ripened judgment, bring up the rear. Similar investigations on slightly different material yield accordant results. The precocity which is marked normally in the formation of the structural elements, and the slowness with which they complete their organization and development, are features fundamental for the production of a good intelligence, for the first condition supplies the elements for response to the various stimuli from without, and the second prevents the formation of too rigid reactions before the frequent repetition of a stimulus has given assurance of its importance. From such facts, the general relations of formal education to the growing process are fairly evident. The function of it is to round out the original framework, in accordance with the natural provisions there present. Without question there is something very fatalistic in the limitations thus suggested. No amount of education will cause enlargement or organization where the rough materials, the cells, are wanting; and on the other hand, where these materials are present, they will in some degree become evident, whether purposely educated or not. Anatomically, the process of training leads to organization extending from the center first developed, so that regions which are isolated in infancy become later more closely associated. So, too, it is found that on the motor side the control of a limb from the cerebral cortex is earliest established over the limb as a whole, since the cells controlling the joints nearest the trunk are the first to mature. At the same time the cortical centers for the more proximal joints tend to be most thoroughly organized, and they become by virtue of this organization in some degree a thoroughfare for the impulses controlling the more distal groups of muscles. Thus the impulses tend to pass through the cortex, and down the limb in regular series. Seguin thus found it most advisable to begin the training of an idiot hand with movements at the shoulder, and the later brain physiology as well as the history of growth confirms his method. The suggestion from this is that the exercise of those structures best formed will most readily arouse to activity those next to be developed, and that direct exercise should follow closely upon the natural extension of the growth processes. In any special case, it is hardly possible to predict what capabilities may be latent, and earlier education thus resolves itself into a reconnoissance among the nerve centers for the purpose of finding those which will best act together. By consequence the training for association comes first just as precocious growth first tends to take this form; that for precision and strength being deferred until later.

Since the beginning of the educational experiment at the dawn of civilization, the problem has been to rouse an interest in the formal exercises of the schools. From the physiological side that which rouses an interest tends to quicken the pulse and determine a full blood supply to the entire central system, yet the narrow gymnastics of the classroom in the most austere form do not in themselves produce that condition of good nutrition favoring the best diffusion of the impulses and the formation of secondary and subconscious associations. The problem, therefore, of an emotional background has been ever present. It has been met with a hickory stick and with gold, as well as everything between them that could be considered as a general excitant; but useful as all these methods sometimes are, it has in the main only been successfully met by a more subtle sympathy and knowledge; a sympathy which in one way or another discovered the growing point in the child and fitted the task to the necessities of the individual.

There remains still another aspect of the subject. The avowed aim of certain educational schemes is to produce a rounded, balanced individual as an outcome of the training process; a psychological result comparable with the ideal human form at one time sought in sculpture. Since conditions of life on the globe are not uniform, and since man only approaches the ideal in his development when in harmony with his surroundings, the notion of such a universal ideal is as fanciful as that of the Urpflanze sought by Goethe: a sort of parent-stem which should contain the characters of its multiform descendants displayed with an ancestral simplicity worthy of the golden age of which it had formed a part. As a matter of fact, the education of an individual is a very local problem in its details. Certainly the weak points in the central system must be strengthened, that the abilities given by the strong ones may be guided by some sort of balanced judgment. But the balanced and judicial states are, so far as they go, plainly statical, and the vigor of a healthy restlessness is very necessary, if there is to be advance. While growth continues things bodily and mental are lop-sided, for growth is never general but accentuated, now here, now there. But this very unbalance, if only it be the outcome of natural endowment and not of formal training, gives a vigor not otherwise to be obtained. The history of the normal individual is through various phases of unstable equilibrium and awkward strength, to the poise and quiescence of late maturity, yet in any community examples of all these phases are found as terminal states in both old and young. The formal methods, therefore, which shall recognize in the presence of these enormous differences in endowment the dynamic value of the natural inequalities of growth, and utilize them, preferring a lack of roundness to the outline gained by pruning, will most closely follow that which takes place within the body, and thus prove most effective.

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II

DR. McCOSH AS A TEACHER OF PHILOSOPHY

To state correctly the elements which constitute the power of a great teacher is no easy task. Teaching in its highest form is a concrete spiritual function. It is easy to describe the method of Socrates, but who shall estimate the subtle play of spiritual forces that passed between the master and his pupils? One meets this difficulty in an aggravated form in attempting to estimate the power of such a man as Dr. McCosh. Some teachers, not the greatest I think, merge their personality in their work. They are like the dramatic poet, who retires behind the scenes while the characters he has created act out their parts. To men, however, of the Socratic type, men of intense and commanding personality, this kind of self-abnegation is impossible. Their words and works must take on something of the mold and glow of a personal force.

Dr. McCosh belonged distinctively to this type. No one could see him without recognizing his impressive and commanding presence. But those who enjoyed the privilege of closer intimacy were chiefly aware of another quality of his personality, namely, its provoking and stimulating character. Dr. McCosh's very presence was a challenge which drove away lethargy and indifference and put one upon his best mettle. It was a magnetic force, which either attracted or repelled the iron filings, but drew all within the circle of its spell. It is not my purpose here to analyze the personal force of Dr. McCosh, but simply to emphasize it as one of the important elements in his power as a teacher. I do not speak of him except as I knew him here in Princeton. He came to us in the zenith of his career, with his prestige as a ripe philosophical scholar; as an author who had achieved eminence, and as an educator of world-wide reputation. His reputation formed a back-

JAMES McCOSH, LL. D.

Ex-President of Princeton College, 1811–1894

ground for the impressive figure of the man himself, re-enforcing his efforts and placing the stamp of authority upon his words and works. When Dr. McCosh put his hand upon the college machinery, it is said that his power was felt instantaneously, like an electric shock. This rousing quality manifested itself, perhaps in its highest degree, in the lecture-room.

I have dwelt on Dr. McCosh's personality as a necessary preliminary, since, without taking it into account, no adequate conception could be formed of his power as a teacher. I will now describe briefly his classroom methods. In these the lecture held the central and most important place. Dr. McCosh's classroom was essentially a lecture-room. His example in this respect raised the lecture, as an academic function, to a position of dignity and importance which it had not before held at Princeton, or, as I am inclined to think, in any other American college. While not discarding the text-book in philosophy, Dr. McCosh relegated it to a subordinate place. It is only through the oral lecture, he thought, that the teacher can impart that stimulus and inspiration to the pupil that is the essential condition of all real instruction. In this conviction he never wavered. After he had published text-books on logic, psychology, and metaphysics, and his pupils had succeeded him in the work of the classroom, his consistent advice to them was not to trust exclusively to text-books or even to text-books with annotations, but to accompany the text-book instruction with courses of oral lectures outside of and supplementary to it. His faith in the lecture was amply vindicated by his own experience. Dr. McCosh possessed almost every quality of a great lecturer. First and foremost was the magnetic force of his personality. To this must be added a complete mastery of his materials, a fine logical power of analysis and arrangement, a keen and fresh habit of observation, which enriched his instruction with facts and illustrations, and an almost unequaled power of exposition. Dr. McCosh's lectures were carefully written out and were fine models of academic compositions. They were alike examples of "fine style and fine thinking." And they were delivered with a live interest and enthusiasm that never failed to be contagious. Dr. McCosh magnified his office as a lecturer, but there was about it little of the cold formality that sometimes surrounds this academic function. He aimed to reach and rouse his pupils, and his address, while noble and dignified, was incisive, direct, and marvelously simple and clear. In his hands I think it may safely be said that the lecture as an academic function reached the climax of its power. There may have been greater lecturers, but it has not been my privilege to know them; while in the effects of his teaching, in the interest and enthusiasm which his lectures stimulated throughout the college, the traditions of the old classic days of Athens seemed to have been revived.

Another feature of Dr. McCosh's method was the quiz or recitation. I do not think he was superlatively great as a quiz-master, although, on further reflection, I may find myself compelled to recant this opinion. His naturally vehement and impatient temper sometimes got the better of him on these occasions, and his manner of handling an intellectual prig or dunce was very often a better illustration of the *fortiter in re* than of the, to the teacher, equally indispensable *suaviter in modo.* I do not mean that Dr. McCosh was infirm of temper. On the contrary he seldom, if ever, lost his self-control. His ebullitions of anger were simply incidents of the urgent and searching way he had of probing a man and reaching out for what was best in him. Moreover, he was naturally intolerant of stupidity or haziness, and he could not endure generalities, however glittering, where specialties were required. The poor fellow who found himself like the five foolish virgins, without oil in his lamp at the moment of his extremity, and who essayed to conceal his ignorance under a mask of assumed knowledge, was sure to be brought to speedy repentance for his temerity. A quiz by Dr. McCosh was not always smooth sailing, and the student sometimes came out of the ordeal feeling that his intellectual rigging was very much in need of repairs. But ordinarily the course of events was not so tempestuous. B would be called upon, for example, to distinguish between the original and acquired elements in some visual experience, or to state the differences between natural realism and Berkeleyan idealism on some point of perception. Now B's ideas are perhaps a little hazy at the start, and his first essay is not remarkable for lucidity. But if he is making an honest effort he will be asked to mend his answer, and thus given a chance to collect his resources and redeem himself. It usually happened that when B sat down at the close of the exercise, provided he had a little wit and was capable of improving his opportunities, he had experienced a marvelous classification of ideas. Of one thing at least he felt sure; there was one subject upon which, if called on, he could express himself definitely and clearly. Dr. McCosh's defects as a quiz-master, so far as they existed, were mere faults of detail. In the large outcome of this feature of his teaching, he was successful to an eminent degree. There was no place for mental languor in his exercises, but his classroom presented a scene of animated interest. The master himself was alive and active and keenly interested in his work, and his spirit dominated the room. It was a dull fellow indeed who did not feel the stimulus of this atmosphere and respond to it in some degree. If the ability to overcome mental inertia, to wake up and stimulate the minds of his students, and to create an active interest on their part, in his subject, be the criterion of a great teacher, then Dr. McCosh was a great teacher in every sense of the word.

But Dr. McCosh's functions as a teacher of philosophy were not confined to the classroom. Aside from the service he rendered in his published writings, to which I can only allude here, there are several features of his college work that must be taken into consideration in any estimate of his power and success as a teacher. The first of these was his idea of *studium generale*, embracing all the branches of liberal culture, as constituting the essence of the university. Upon this as a basis he conceived and partially carried out a reorganization of college studies, grouping them into the three departments of science, literature, and philosophy. Dr. McCosh's ideal was that of a philosopher who had studied the educational problem profoundly, and who had the resources of a wide experience and a firm grasp of principles at his command. In his scheme of co-ordination his aim was to produce, not a dead mechanism, but a living organism. Science and literature were to lead up to philosophy, in which the final unity and completeness of culture were to be achieved. A second feature was the system of competitive fellowships and prizes which he founded, several of which were assigned to the department of philosophy. These fellowships and prizes were powerful stimulators of advanced study, and aroused great interest and enthusiasm among the better class of students. It was Dr. McCosh's aim in the founding of fellowships and prizes not only to encourage advanced attainments in philosophy and other departments of learning, but also to educate high-class teachers for college positions; and it is a remarkable justification of his prescience in this matter, that, to say nothing of other schools, more than a hundred college positions in this country have been filled by his pupils, and that at present Princeton's faculty contains twenty-four of his pupils as professors, instructors, and assistants. A third feature of the same character was the establishment of university courses and the founding of university fellowships and regular schemes of study leading to the higher degrees, in all of which Dr. McCosh took the leading part, although he was ably seconded by others. That Princeton should be a great university was the aim that inspired and directed all his efforts. Now, although his work in the direction I have mentioned belongs especially to his general administrative relation to the college, yet it cannot be overlooked in an estimate of him as a teacher. For Dr. McCosh's ambition was not only to make Princeton a great center of philosophical education, but also a source for the supply of teachers for other institutions. And aside from this ambition the things I have spoken of had a powerful retroactive influence on the individual students, opening up opportunities before them and arousing in them the desire for advanced attainments. The fellows and advanced students in the various departments will testify, moreover, to the warm personal interest Dr. McCosh took in their studies and the stimulus and help they derived from his encouragement and direction. Advanced and independent study and research never had a truer or a more generous friend.

Another feature that stimulated interest in philosophy, as well as in other branches of learning, was the library meeting, as it was called. This was a unique feature of American college life and deserves a brief notice here. It was the custom of Dr. McCosh during his presidency of the college to hold a meeting each month, during the college year, in his library. To this would be invited the members of the faculty and the fellows of the college, together with the members of the junior and senior classes. The attendance ranged from fifty to about two hundred. At these meetings a paper prepared specially for the occasion, on some philosophical or kindred theme, would be read by some member of the college, or by an outsider who had achieved eminence in his specialty. The reading of the paper would be followed by a discussion in which all were free to participate. These meetings were as a rule animated and interesting, and not only formed an appropriate climax to the philosophical work of the college, but also served to arouse a general interest in that and kindred studies. No description can at all adequately represent the importance of these meetings. Visitors from other colleges who had the opportunity of being present at any of them were greatly impressed, and regarded them as among the most interesting features of Princeton college life. It is needless to say that Dr. McCosh was the inspiring genius of this as of the other elements of which I have spoken, and that the whole must be taken into account in estimating his power and work as a teacher of philosophy. When he retired from the presidency the library meeting passed into the hands of his successor, and has been perpetuated in a somewhat modified form. Dr. McCosh's retirement from the presidency of the college did not, however, carry with it the total relinquishment of the teaching function. He still continued to deliver courses of university lectures on various topics of interest, before the whole college, and he was made president of the Philosophical Club, an organization formed about this time and comprising in its membership the instructors and fellows in several of the leading departments of academic study, a position which he held up to the time of his death. And although a very old man, in his eighty-fourth year, he continued to be the ruling spirit of the club, presiding at all its meetings, and working for its interests with untiring zeal. It was only last August that the writer had a letter from him full of plans for the future work of the club, and proposing several subjects which he wished to have discussed at its meetings. But the hand of death was on him before they could be realized.

How shall the power of such a man be estimated? Dr. McCosh was above all a teacher of men. And as a teacher he was pre-eminently a philosopher. I have spoken above of the inspiring force of his personality as a factor in his teaching. I have also considered in some detail the various agencies through which he made his force as a teacher felt. My aim in the remainder of this paper will be to show the connection of some of the larger features of Dr. McCosh's life and spirit with his power and success as a teacher. Dr. McCosh's philosophical activity was related vitally on one side to religion and theology and on the other to science. And it may be truly said that he illustrated the harmony of science and religion in his own person. A theologian to the manner born, and a minister of the Gospel years before he entered upon his academic work, he was naturally alive to the religious side of philosophical problems. But he was a keen lover of nature on the other hand, and had from the beginning of his career been alive to the great issues that were arising in science. Partly in conseqence of this two-sided interest, and partly also owing to his largeness of vision and catholicity of spirit, when the doctrine of evolution became prominent in science and philosophy through the discoveries and writings of such men as Darwin, Huxley, and Spencer, he was prepared to deal with it wisely. Dr. McCosh, pronounced theist that he was and minister of the Gospel, did not join in the general chorus of opposition to the new doctrine, but undertook to show that neither theism nor sound religion had anything to fear from it. As one has finely said: "Dr. McCosh believed in God, and he also believed that nothing could be evolved that God had not planned." He was thus able not only to save those who had accepted evolution on scientific grounds from atheism, but also to become the most intelligent critic of evolution. Again Dr. McCosh was a most pronounced intuitionist in philosophy, but this faith did not close his sympathies against any of the fresh results of investigation. On the contrary he was ever hospitable to research, having the abiding faith that the more thorough and exhaustive the analysis of experience should be, the more clearly would it vindicate the necessity of an intuitional foundation. In like spirit, when the new science of physiological psychology began to put forth its claims, Dr. McCosh was one of the first in this country to welcome it as an ally and important aid to the investigation of consciousness. These characteristics of Dr. McCosh indicate a largeness of vision and sympathy, combined with a firmness of faith, which exercised a more potent influence over his pupils generally than any or all of the special doctrines of his philosophy. It was less the teaching of the man than his largeness of mind, his spirit and conviction, that penetrated and molded the mind and character of his students.

And this suggests the topic which I wish to consider in this closing paragraph. What were the essentials of Dr. McCosh's influence upon his pupils? To answer intelligently, we must distinguish between the content of his teaching and his spirit and temper. As to the former there were certain fundamental convictions in which he generally carried his pupils with him. They might not accept all the details of his doctrine of natural realism, and certain aspects of idealism might possess more charms for them than the master liked, but they did not fail to agree with him in his love of reality and his belief that the real may be known. His firm faith in God was also likely to be theirs, as well as his conviction that morality and religion could be truly grounded only in an intuitional metaphysic.

Briefly, then, it may be said that while Dr. McCosh sometimes failed to carry conviction regarding certain points which he himself considered important, yet no teacher was ever more successful in reproducing in the minds of his pupils the main lineaments of his own belief.

Regarding the spirit and temper of Dr. McCosh's teaching I cannot speak in other than unqualified terms. If his very presence was a challenge to mental activity, it was also and pre-eminently a challenge to honesty and directness. His honesty and sincerity of belief and purpose were transparent. And these were something more than ethical qualities with him. They were properties of mind. Dr. McCosh was incapable of a mental indirection; his mind was absolutely lacking in those dual mental processes out of which irony, sarcasm, and innuendo arise. A spade was to him never anything else but a spade. His thoughts corresponded directly with the real, and his words faithfully and simply expressed his thoughts. Dr. McCosh had infinite tact and shrewdness in action, but he was as innocent as a child of verbal tact. He went straight to his mark like an arrow. This simple honesty and directness in the man enabled him to reach the heart of the pupil and to provoke in him a like spirit. It also gave the pupil absolute confidence in the master. For whether he agreed with him or not, he felt through and through that he was being honestly dealt with, and that the mind and heart of the master lay open before him. When to this we add that Dr. McCosh was a man of the purest and loftiest ideals; that he was a stranger to selfishness and paltry aims; that he never thought of sparing himself; that he was supremely devoted to truth as he knew it; that he labored singly for the good of his pupils whose interests he bore continually on his heart and mind, the enthusiasm which his pupils felt and continue to feel for him will, I think, be explained and justified. Dr. McCosh was a great man and he accomplished a great work for his day and generation. But he was greatest as a teacher, and among the many enduring memorials which bear witness to his achievements the most imperishable are those which have been wrought in living tissue, in the minds and spirits of his pupils. His impressive and commanding presence is no more seen in our midst; his voice is forever silent on earth. But his works do follow him, and being dead he yet speaketh. For the example he has left and the words he has uttered only become the more impressive when the form of the teacher has vanished and there remains of him only a sacred and inspiring memory.

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RECOLLECTIONS OF DR. McCOSH'S TEACHING

It was as President of Princeton College that Dr. McCosh achieved the great success of his life, and left the deepest mark on his time. But for sixteen years he was professor of logic and metaphysics in Queen's College, Belfast, Ireland, and it was during this period that he won a recognized position in the philosophical controversies of his age, and also influenced large numbers of young men, many of whom now occupy places of trust in every part of the world. Even now, after the lapse of so many years, I can well remember the keen regret, the vivid sense of loss, which his departure to America caused in Belfast and the North of Ireland. It was he, along with men like Professor Craik and Sir Wyville Thomson, who had helped to make the college at Belfast so conspicuous, and had given it its splendid reputation throughout the British dominions.

Many of Dr. McCosh's old pupils will testify that he did more, perhaps, than any other of their teachers to mold their habits of thought, to give direction to their tastes and purposes, and to shape their after lives. It is natural to inquire what there was in him, and his methods as a teacher, to produce in young minds an impression so deep and lasting. I was a member of the last class which he taught in the college at Belfast, and perhaps my recollections of him in the classroom there may help to furnish at least a partial answer.

Dr. McCosh's personality never failed to impress young men. In all he did there was a suggestion of strength. His easy and thorough grasp of the subjects he taught was very apparent. He lived in them, and they filled him with enthusiasm. In listening to his philosophical lectures, one felt that this was a man who knew what he was talking about. His thought had a firm tread. He had clear opinions which he expressed clearly. His sentences, if not always graceful, were never hazy. His style was terse and masculine, and never tedious or dull. What he said once of Sir William Hamilton was just as true of himself, that no one who listened to his lectures in the classroom, or read his works, had any reason to fear "being led into a Scotch mist, or being met by a fog from the German ocean."

The natural result of all this was that Dr. McCosh always succeeded in interesting his students, even those of them who had least taste and aptitude for philosophical study. He did not aim simply at imparting his thoughts to them, he sought to stimulate them to make what he taught them their own. As I remember him in the classroom, he labored there as one who knew that "the true teacher, like nature, gives nothing but materials, and opportunities, and impulse." His pupils were roused, in spite of themselves, to the difficult work of thinking. They could not sit under him for a college session without having whatever powers they possessed, in some degree at least, called into play. This accounts, partially at any rate, for his deep and lasting influence on the habits and lives of his students.

The methods of teaching pursued by Dr. McCosh at Belfast were, as I recall them, thoroughly wise and well adapted to the miscellaneous material with which he had to deal. All young men who were being trained in Belfast for the Irish Presbyterian ministry were required, by the order of their Church, to attend the classes in metaphysics in Queen's College. Consequently, while the college left the subject an elective one, the professor of metaphysics had always a large body of students who presented, as might be expected, the most varying aptitudes for the studies of his classroom. To teach philosophy to such classes, so that the brightest minds might be stimulated and the dullest not neglected, was a difficult thing. Dr. McCosh succeeded admirably. First of all, a text-book on the history of philosophy was used. The key to the present is the past. To understand the controversies of to-day, the student must watch the historical development of thought. By the use of a text-book Dr. McCosh opened to his pupils the various answers that had been given in successive ages to the problems with which philosophy deals. Twice a week he unfolded in a series of lectures his own answers to the same problems. By frequent recitations and occasional essays, he tested his students, to see whether they understood the points in which his own system of philosophy agreed with, and differed from, other systems. His teaching did not confine itself to the surface of things. He was not satisfied with the cut and dry knowledge which may be acquired from manuals. By the plans indicated, he sought to impart to his pupils "a living knowledge, a knowledge of which they should know the beginning, the middle, and the end." Perhaps what some of us who sat under him appreciate most as a result of his teaching is the respect he instilled into us for the Baconian method of investigation as the only one which will yield trustworthy conclusions. As a consequence of this we feel, and always will feel, a repugnance for all merely *a priori* theories, whether we find them in philosophy, or in theology, or in biblical criticism.

I can remember that in the classroom Dr. McCosh's temper was somewhat imperious. An ill-prepared recitation annoyed and irritated him. The student whose answers to questions were slow of coming, or wide of the mark, was made to feel for the moment rather uncomfortable. To be a member of any of Dr. McCosh's classes meant serious work. And yet his pupils, at least the most ambitious and laborious of them, loved their teacher. They could not but appreciate his intense sympathy with young men. He was most approachable, always kind to those who came to him for information, always interested in those who were fighting with intellectual difficulties. He kept himself in touch with the men who made any mark in his classes. By personal talks with them, by close observation of their work, he became acquainted with their mental and moral equipment; and nothing gave him greater pleasure than to help such young men, after graduation, into positions in life for which he deemed them fitted. Some of us know that he would spare himself no trouble to that end. He followed the career of his successful students with the keenest interest, and if they accomplished anything in the literary or professional activities of life, a message was sure to come from him, to let them know the pride and delight their old professor took in the work they were doing.

No one whom I have ever known used his life more worthily than Dr. McCosh. No one deserves more to be held in grateful remembrance. He has been well described as "a fine specimen of the sturdy, religious, metaphysical Scot." It is the fashion in certain quarters to belittle his work in philosophy, but some at least of his writings are destined to live. There is a great deal of force in what a writer in a British paper says of him and his work: "Among the young metaphysicians Dr. McCosh is not greatly esteemed, but if their books have as long and as vigorous a lifetime as some of his, we shall be surprised."

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III

VALUES IN SECONDARY EDUCATION

The most weighty charge that can be brought against the Report of the Committee of Ten is that it is built upon the sands of an unscientific empiricism. The chairman recognizes this when he says the work can endure for only a few years, and is at best but a scaffolding. Dr. Harris emphatically declares this in his letter of transmittal, when he says: "The recommendations of this Report will draw the attention of great numbers of teachers to the question of educational values. . . In this respect I consider this the most important educational document ever published in this country." Mark the words "In this respect"; and to this end one may readily recognize that the mistakes in the Report may be far more serviceable than the lucky hits. Let us be thankful for the mistakes and lament that they are not yet found as numerous as the enemy had hoped.

This accusation of having built upon the sands Superintendent Kennedy of Batavia brought against the Committee in the last University Convocation of the State of New York. At the same meeting President Hall expressed his regret at the lack of educational theory in the Report, and Dr. Butler, while defending the work of the Committee, declares that this question of educational values is *the* crucial question in all grades of educational work.

I pass over in silence those passages in the Report which apparently declare that no such question exists, and that one subject has as much educational value as any other, and the remarks of that college president who ascribes as much educational value to road-making as to any other possible subject. It is enough that the two words, "educational values," have come to be the shibboleth at every meeting of educators, and ornament the programme of every educational meeting.

Under these circumstances I shall not be so rash as to attempt to draw a complete and accurate map of this vast and unknown land of educational values, nor shall I fill up its oppressive blankness with figures of lions and tigers, griffins and fabulous birds of prey. I dare only attempt to send a spy about its borders, well assured that he who brings back grapes of wondrous size will also tell of giants whose strength and stature may well intimidate the faint-hearted. It is the purpose then of this paper, first, to deduce as concisely as possible a principle of choice for the selection of studies which shall serve as a measure to determine educational values, and, second, to call attention to some of the pressing problems which demand solution before this measure can be applied to secondary work. The orthodox method would be to call upon ethics to furnish us with this fundamental principle or upon her sister theology to deduce it from her answer to the question, "What is the chief end of man?" But if we examine with some degree of care the educational thought of the present, especially that thought impelling to wide reforms, we shall find implicit everywhere a principle characteristic of the times, and one by no means lacking in ethical support.

Let me make that principle explicit.

As all are well aware, the measures for reform in secondary work are by no means confined to our own country. If we consider the decrees of 1890 and 1891, marking the reforms in the French Lycée under the leadership of Jules Simon, or the law of 1892 in Germany, brought about by the Berlin Conference, or the Report of our own Committee of Ten, or the demands for reform now being considered by the Royal Commission in England, two ideas seem to dominate them all: (1) better methods; (2) more attention to modern subjects.

The meaning of the first is more apparent when we find in every case coupled with it advances in physical culture, in hygiene, and in attempts to gain spontaneous activity from the pupil himself. The pupil is no longer in the eyes of the reformer a passive receptacle into which is to be poured knowledge perfectly ordered according to the laws of logic; first the major premise, then the minor premise, then the conclusion; first the rule, then the exception; but he is himself the dominating activity, dominating not only the sequence of teaching, but the very choice of subject-matter itself. He is, or soon will be, and surely ought to be, the all-important factor in the choice of studies. The law of his development must be the law of choice and sequence for the teacher. One thing is plainly evident: the center of gravity of thought on education has shifted from the subject-matter of education to the subject of education, from the text-book to the pupil. Another thing is equally plain. Educators have breathed in that atmosphere so supreme in the scientific thought of the day; that unwavering confidence in the laws of nature as mightier than any device of human reason, that confidence which declares that man the best physician, who can give nature the best chance to help herself; that man the best scientist, who can closest follow Nature in her great laws; that man the true educator, who obeys most closely the eternal laws of man's development. We may set, then, as the first and most important factor of the principle of value, development, or the highest possible evolution of the individual.

The second factor in this principle makes itself manifest in the unprecedented growth of the modern secondary course of the French Lycée; in the rapid strides of the German Real-Gymnasium; in the manual-training schools, in the industrial and technical schools of our own country, and in the modification of the college requirements for admission. It is the demand for the useful, the practical, the near-at-hand. In its crass form it appeals to men of narrow views and low ideals of life. In its nobler form it counts among its standard-bearers no less names than those of Huxley and Spencer. The old dogma of formal education may well stagger under the vigorous blows of this young athlete. It is powerful since it contains a mint of truth. It is dangerous because it has only a part of the truth. It emphasizes knowledge as against feeling, the real as against the ideal. It magnifies the part as against the whole. It declares boldly that the end of life is adaptation to environment, or, to put it in its bold, confident way, the mastery of environment. It takes for its text the words of the anthropologist when he declares: "After birth all further development is merely a concrete adaptation to environment without regard to upward zoölogical movement."[1] Of this second principle of reform, science is the watchword; environment, the argument.

The reform movement in education then presents two distinct phases: the one the development of the individual according to the law of his nature born within him; the other, environment. It is the old dualism of subject and object, ideal and real—may we not say the gold and silver sides of the same shield—and the truth is to be found in the synthesis of the two. The true principle of choice, the true end of education, is to be found in development as modified by environment; not environment in that narrow view which sees only sticks and stones, food and drink, money and clothing, but environment in that broader inspired sight of the poet when he sings to the little flower in the crannied wall:

"If I could understand
  What you are, root and all, and all in all,
I should know what God and man is."

And in the same vein, speaking of action, Goethe says: "For the narrow mind, whatever he attempts is still a trade; for the higher, an art; and the highest, in doing one thing, does all."

What, then, are we prepared to answer to the practical inquirers, who say:

"We are well aware of the dire need of a principle of choice. We have long since given up all hope that in the golden future a Comenius will arise who will so shorten science, and so lengthen life, that a single man in a single lifetime may master the world of knowledge. We are convinced that 'formal education,' so called, is a fiction, and that 'there exist as many kinds of formal education as there are essentially different spheres of intellectual employment,' that the elective system with its 'mob of studies' is absolutely no solution of the problem and merely begs the question; but we must have a principle of choice simple in its meaning and easy in its application; we wish to know what percentage of value algebra has, and English, and chemistry; physics and botany, and surely Latin, and perhaps Greek and physiography." To these I answer: Complete living is not so simple an affair that preparation for it should not involve complex ideas and complex relations; and second: The world was not made in a day, and the science of education is still very young. The only way of advance is by the slow, laborious way of observation and experiment. So the history of medicine, of chemistry, of every science teaches. The alchemist failed to turn the baser metals into gold, but chemistry to-day is turning them into what is far richer than gold. The elixir of life was never found, but it is the glory of medicine to-day that it has lengthened by a considerable amount the span of human life. The best that can be done by the science of education for the present, beyond making this principle of development as modified by environment the guiding word of general direction, is to point out where the labor must be done in observation and experiment. To some of the most important fields of this work I shall attempt to point.

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[1] Ellis, *Man and Woman*, p. 25.

First let me ask to what period of life secondary work belongs. "We are born twice," says Rousseau in the *Émile*: "once to exist, and again to live once as to species, and again with regard to sex." This wonderful phenomenon, by which a new life is grafted upon another until it absorbs the old, did not escape the attention of men of old or of uncivilized peoples. Its advent has been marked by many barbarous rites and ceremonies—the knocking-out of a front tooth, the tearing of hair from the head, tattooing and lacerating the body, fasting, seclusion. In Japan the godfather cuts off the forelock of the boy and gives him a new name, emblematic of the new life. The Romans celebrated it by the feast of the *liberalia*, and the boy donned the *toga virilis*. Aristotle, wisest of thinkers, most far-seeing of men, made this age the pivot of his curriculum, the dividing line for subject and method. In recent times one of the most careful students of the brain and its functions has declared that the "distinction between reproductive and non-reproductive eras is no doubt the most important of all in the life of man"; and yet, echoing the words of the President of Harvard, there has gone broadcast through the land the saying that there is no line of division in the education of the child from the kindergarten to the college.

It is to the first four years in this period of adolescence, from fourteen to eighteen in the life of the child, that the work of the secondary school falls, a period characterized by unprecedented physical growth, by intellectual turmoil and confusion, by the flaming up of emotions not yet bridled by reason, but still plastic and yielding to sympathetic guidance; in short, the period of the birth of will, the birth of individual character. Pestalozzi, Preyer, Hall, have preached the gospel of the study of childhood, until the world has heeded and is bending in reverence at the feet of a little child; but who shall be the apostle of this second childhood through whose golden gates the child passes into manhood?

Before this idea of development as the principle of choice can be applied with any accuracy and precision there must be a physiology of adolescence, an anthropology of adolescence, and a psychology of adolescence. There must be innumerable observations and experiments within and without the class-room, and the careful statistician may delight his heart constructing thousands of those curves which apply to no one in particular and everyone in general. Adolescence must be studied not simply on its physical and intellectual, but on its emotional and volitional sides.

Everyone is familiar with the more marked physical changes that occur at this age. The larynx enlarges. The bridge of the nose grows out. The heart increases in size. In man the shoulders broaden, the muscles harden, and the beard begins to grow. In woman the hips enlarge, the limbs are rounded, and the bust developed. It is a period of rapid growth and of maximum resistance to disease. The head changes its shape somewhat, and to explain the enormous and rather sudden leap in the mental life of this period, "we must assume," says one, "an almost completed apparatus lying ready to be brought into use, just as the centers of respiration are ready for their function at birth." The child only now begins to receive in its full the rich or vile inheritance handed down to him from his ancestry. If education and heredity can ever be pitted against each other, here is the place where they must meet.

Here, too, the sexes begin to differentiate to a marked degree. The period of change begins later in boys, lasts longer, and leaves more marked results in men than in women. In man the development is toward action, cognition, duty, and the higher imagination; in woman toward emotion, the protective instinct, a craving for admiration and worship, and faith in an ideal hero to be worshiped in return. The scientists are telling us now that women are nearer children than men, but they console the women by declaring that, after all, zoölogically the child is at the apex of development, and all subsequent change is really degeneration. But, to be earnest, the answer to the question how far co-education is right must find a large part of its data in the study of this period. It may be right to educate boys and girls together, but is it not rather summarily cutting the Gordian knot to say the curriculum for the one must be good in all its details for the other? Will a careful comparative study of adolescence in boys and girls admit of such a solution to the question?

On the intellectual side it is evident, too, that the old static psychology must be thrown aside. We must have a psychology of development.

The analysis of a plant into its parts, though involving the same truths, is quite a different thing from the explanation of the laws and method of its growth. So, too, in the mind we must have a psychology of the growth of mind; and the mind-growth of the youth is quite a different thing from the mind-growth of the child or of the man. What will this science have to say as to educational values?

But it is on the emotional side that this period of adolescence shows the most marked and startling revelations; startling because in the educational practice of the day so little, so very little thought, is given to the training of the emotions, and yet this is the part *par excellence* which constitutes the individual as an individual. He may share his thoughts with other men, but his feelings are the holy of holies into which only his dearest friend may penetrate, and then only once a year. More than anything else, the feelings are the man. They mark themselves in the lines of the forehead, play queer tricks with the muscles of the eye and the corners of the mouth, express themselves in the carriage of the head and the placing of the foot, amalgamate themselves together into the disposition, which has more to do with a man's weal or woe and that of his neighbors than aught else that can be named. I would rather educate my child to invincible happiness than teach him all the wise thoughts the sages have pronounced or put in his hand all the wealth the bosom of the earth enfolds.

There is no period of life so tempestuous in the rise and sway of the emotions as the period of adolescence. The youth himself does not know or understand himself. He seems pressed and impelled by a mighty power from without. The reins of a new life are flung into his hands, and alas! too often no one stands by to aid him guide his fiery chariot. This is the age of the beginning of lofty aspirations, of yearnings to sacrifice one's self for something noble and true. Altruism supplants the mild egoism of the earlier period. Right and wrong begin to look as they never looked before. The religious consciousness is awakened. As cited by Dr. Hall, out of 253 cases of conversion 138 occurred between the ages of 13 and 15.

Literature has not been silent as to the distinctive character of this period. Witness the following, most of which have been instanced by Dr. Burnham: Rousseau's *Confessions*, Marie Bashkirtseff's *Diary*, Jefferies' *The Story of my heart*, Tolstoi's *Confessions*, *The story of an African farm*, Longfellow's *Excelsior*, George Eliot's Maggie Tulliver, with her "wide, hopeless yearning for that something, whatever it was, that was greatest and best on this earth," and her "volcanic upheavings of imprisoned passion." Of Gwendolen Harleth Clouston says: "From the time when at the gaming table Gwendolen caught Deronda's eye, and was totally swayed in feeling and action by the presence of a person of the opposite sex whom she had never seen before; playing not because she liked it or wished to win, but because he was looking on, all through the story till her marriage there is a perfect picture of female adolescence. The subjective egoism tending toward objective dualism, the resolute action from instinct, and the setting at defiance of calculation and reason, the want of any definite desire to marry, while all her conduct tended to promote proposals, the selfishness as regards her relations, even her mother, and the intense craving to be admired are all true to nature."

And now I ask: Is the present curriculum in secondary schools especially adapted to rule and guide these emotions? Is it even founded on a consideration and knowledge of the laws and facts of this wonderful course of nature? or is it not rather excellently fitted to ignore, to repress, to grind under the iron wheel of a cold intellectualism and a deadening mechanism? Modern psychology tells us that the emotions are the fundamental support of the mental activity and that, uncontrolled, they burn out the tissues of the life. "The grand pedagogical aim," says a recent writer, "should be to utilize the tempestuous emotions of adolescence." Are the secondary schools of to-day doing this? If so, where? Only here and there, and then rather by accident than by any fixed purpose. Surely the data resulting from the study of the emotions of adolescence will have something to say as to educational values when the principle of development as modified by environment is applied.

So I might go on to show how the volitional activity of youth yearns to express itself, longs to be something, to do something, to create something. If the whole boy is to be sent to school, it must be the boy doing, as well as the boy thinking and feeling. Froebel did a great service for little children when he proclaimed the educative power of self-activity; but the adolescent must have activity or he will die, intellectually and morally, if not physically. Nor must it be simply the activity of the child. That is imitative, responds readily to suggestion from without, yields easily to environment; but the adolescent boy resists. He has found his heritage of an *ego*, and you must yield him an opportunity to externalize it. The fact that all the diseases characteristic of adolescence are diseases of excess declares this pressure of inner energy. The awkward, gawky bearing of the boy just crossing the threshold of the new life makes plain to even the most careless observer that there is more feeling, more energy than there is power to co-ordinate; and the power to co-ordinate, be it physical or mental, can only be gained by action. Action is salvation. A school without a playground, without a laboratory, without a workshop, without a debating society, without incentives to individual investigation and independent work, surely can find no place if educational values are truly apprized. The famous work for the world done by young men has often attracted the attention of the thoughtful observer. It would be interesting to note in how many instances the bent for this success was given during the early years of adolescence, when the habits of manhood are first traced in the plastic and forming character.

What has been said has had to do only with the side of development in the principle of value here set forth. It is evident that, upon the side of environment, there opens a long and fruitful series of problems, equally pressing for solution. Under environment are included all those conditions and influences from without which form the surroundings of life; the facts of nature and the concepts under which man has given them orderly arrangement; the great truths which have been discovered about life in the past, and the words in which they have been expressed; the relations into which man is brought with individual man and with society, and the ideals of those relations, the æsthetics of nature and of art; the moral law and man's relation to God; to all of which the history of what man has done in the past forms the proper propædeutics.

It is the business of education to analyze this, to sift the essential from the non-essential, and to arrange it, not according to the laws of logic as the other sciences do, but according to the laws of the growth of mind and the development of the child. It is only as the child absorbs this environment that the development of the inborn powers is possible, for manifestly there can be no purely formal development. Knowledge must always be the knowledge of something definite. The power to do must always be the power to do something definite. Feeling can only exist as it is the atmosphere enveloping such definite knowledge and activity; and so our problem becomes a very concrete one, and we are in great danger either of merely seeking for a hierarchy of studies without regard to the boy to be developed, or being content with a low standard and calling it utility, or worse yet, in despair accepting without question a merely historical solution. If an analysis of environment on these principles is made, the Herbartians with their apperception, co-ordination, and correlation have made it very certain that the present hard and fast lines of the sciences are not fixed by any law of the Medes and Persians found recorded in the Book of Pedagogy. It is not at all improbable that before we attain those final per cents. of value so much desired, there will be need to resort to an entirely new principle of division, and that algebra will be strangely mixed with geometry, and bits of manual training find places exactly to fit in the mosaic of the classics; that the courses of study will be labeled with strange names, or old names in new meanings, and many, if not all, be as vague in outline as English is to-day. Nay, more, it would not be so strange a thing, after all, to find that the per cents. of value belonged to the bits rather than to the groups.

It is the business of educational theory further to determine what parts or views of this environment are essential to youth in the early years of adolescence; not simply in the light of what has been, with its climax of examination papers, nor yet simply in the light of divine wisdom shed by college requirements, set often by men who have never so much as dreamed of many of the far-reaching problems peculiar to secondary education; but by the laws and demands of the youth himself. The college must come to the secondary school, not the secondary school to the college. Whatever may be said of educational reforms in general, this is a reform which must work from below upward; no matter who first dropped the seed for its growth.

Statistics thus far gathered make it plain that races differ somewhat in the rate and details of their development; but the much more pronounced difference in environment makes a decided and emphatic variation in estimates of value and order of procedure. Our own country, with its mongrel race and elastic social relation, presents a peculiarly difficult and yet a peculiarly promising problem for solution. Other people may have to deal with the comparatively simple problem of educating the boy to fill the place of the father, but we must face the problem of fitting the boy for an undetermined place in life; and we have this advantage that we are compelled, as no other people have been, to study the boy himself. Thus, as the difficulty increases, the only true solution forces itself upon us. No education can be a true education that is not a national education. As long as any community has traditions to be held dear, ideals to be cherished, gods to be worshiped, which it holds dearer and truer than those of its neighbors, the true education for the youth of that community must be colored by these traditions and these ideals. There never can be one perfect education exactly fitted to all, until all men live in one land, a land where there is no scenery save monotonous sameness; until the division of labor has been given up, and every man makes his own coat, grinds his own grain, and bakes his own bread; until all men have become exactly alike, *pares similesque*. God grant that that may never be, and that we may cease so blindly to chase the *ignis fatuus* of unity, forgetting that the highest perfection is unity as manifested in multiplicity and variety. Amid all the din is unity!

unity! unity! it is a pleasing sound to hear Dr. Thurber emphatically declare: "The one unthinkable thing in our education is uniformity in schools and courses."

Let me emphasize especially one corollary which follows necessarily from the principle of development as modified by environment. Educational value is not a quality which belongs inherently to any study. It is only as it fits the time, the place, and the child, that such value belongs to it. The curriculum must be always changing, always made anew. Each people must have its own characteristic studies, its own characteristic estimate of value. As long as we wish to be Americans, and not Englishmen or Frenchmen or Germans, we must not seek to borrow the measures of value set in England or France or Germany; and again, the curriculum of to-day must not be simply the curriculum of forty years ago, *plus* all that the new environment demands. We must learn with composure to throw out the old which has lost value by the change in the times, as well as to take in what the present requires. The problem of educational values is then a perennial one, but one whose principles are definite and fixed.

We are all familiar with the story of Hiero of Syracuse and Simonides. How, when Hiero once asked the poet a question, he begged a day for deliberation, but at the end of that day begged for two more, and at the end of two days promised an answer after four, until Hiero, wondering at this geometrical increase, asked the reason, and Simonides replied that the more he considered the question the more difficult it seemed. If by reason of this article anyone feels that the question of educational values is more intricate, more pressing, more important than he felt before, then its purpose has been fulfilled. It is certain that giants dwell in the land, against whom brave battle must be given by him who would go up and possess it; but it is a land "where there is gold, and the gold of that land is good."

WALTER BALLOU JACOBS

BROWN UNIVERSITY,
PROVIDENCE, R. I.

IV

UNIFORM STANDARDS IN COLLEGE PREPARATION

An important movement toward co-operation between the East and the West, in the matter of uniform standards in college preparation, was inaugurated at the conference of the Michigan Schoolmasters' Club with a committee of the Faculty of the University of Michigan, held on December 1, 1894. The question of the unification of requirements for admission to American colleges was discussed by four representatives of secondary schools, twelve college presidents (by letter), and eight heads of departments in the University of Michigan.

As a broad basis for the discussion, the following questions were sent to 140 academies and 140 large high schools carefully chosen, and to 60 small high schools on the accredited list of the University of Michigan.

1. What positive requirements in science do you advocate? How much of each?
2. Would you favor one year of either physics, chemistry, or biology with laboratory work in A. B. and Ph. B. courses, and physics with either chemistry or biology in all other courses?
3. (*a*) Have you facilities for satisfactory laboratory work in the three sciences? (*b*) Could you easily secure these facilities?
4. Do you favor reducing the requirements in Vergil to six books of the Æneid?
5. (*a*) Would you limit the Greek preparation to two years and to Attic prose? (*b*) Can two or three books of Homer and the usual Attic prose be taught in two years?
6. Do you favor four years of a foreign language, preferably Latin, in all courses?
7. (*a*) Do you favor one or two modern foreign languages in the A. B. course? (*b*) How much?
8. (*a*) How much history would you recommend in the different courses? (*b*) Should the history of Greece and Rome be taken as a substitute for general history?
9. Do you favor solid geometry in all courses?

10. Which college is nearest your ideal in its requirements for admission? What changes would you make?

11. (*a*) Do you favor fifteen prepared and five unprepared lessons per week for all secondary schools? (*b*) What is your present system?

The answers to these questions from 36 academies (A), 18 of which were east of Ohio; 35 large high schools (B), of which 16 were east of Ohio; and 14 small high schools (C), accredited schools of the University of Michigan, showed the following results:

	A	*B*	*C*	*Total*
Question 1				
Physics,	19	29	10	58
Chemistry,	14	24	7	45
Botany,	5	11	6	22
Biology,	2	11	4	17
Physiology,	8	9	7	24
Zoölogy,	1	5	1	7
Physiography,	3	4	4	11
Geology,	1	1	2	4
Years of science for A.B. and Ph.B.,	1.2	1.3	—	1.3 (average)
Years of science for other courses,	1.8	2.6	—	2.2 (average)
Question 2				
Yes,	15	12	14	41
Question 3 (*a*)				
Physics, chemistry, and biology,	10	16	5	31
Physics and chemistry,	11	9	7	27
Chemistry,	1	3	0	3
Physics,	0	4	0	4
No Science,	2	3	2	7
Question 3 (*b*)				
Yes,	8	9	4	21
No,	7	3	3	13
Question 4				
Yes,	21	25	10	56
No,	5	7	2	14
Question 5 (*a*)				
Yes,	16	11	9	35
No,	16	19	2	37
Question 5 (*b*)				
Yes,	6	5	4	15
No,	21	24	7	52
Question 6				
Yes,	16	14	2	32
No,	11	14	10	35

	A	*B*	*C*	*Total*
Question 7 (a)				
Yes,	27	21	9	57
No,	1	7	3	11
Question 7 (b)				
One year,	5	8	2	15
Two years,	10	12	8	30
Question 8 (a)				
Years of history,	1.6	1.7	1.8	1.7
Question 8 (b)				
Yes,	7	6	2	15
No,	13	10	7	30
Question 9				
Yes,	13	12	12	37
No,	16	18	1	35
Question 10				
Harvard,	8	13	1	22
Michigan,	1	4	2	7
Cornell,	2	2	0	4
Chicago,	1	1	0	2
Princeton,	2	0	0	2
Stanford,	0	2	0	2
California,	0	1	0	1
Johns Hopkins,	1	0	0	1
Yale,	0	1	0	1
Question 11 (a)				
Yes,	9	11	3	23
No,	13	8	4	25
Question 11 (b)				
Average prepared lessons,	16.9	15.9	17	16.6
Proportion using any unprepared lessons,	.48	.65	—	.57

Some of the most valuable and representative reports received are here summmarized.

VIEWS OF LARGE HIGH SCHOOLS

PRINCIPAL F. L. BLISS, - - - - - - - - DETROIT

A general agreement among colleges is demanded, recognizing that A. B. and Ph. B. courses must have one preparation and scientific and technical courses another. Opinions of prominent schoolmen were quoted, showing the present low requirements of technical schools and their disastrous effects on secondary education. The first step toward unification must be the strengthening of the requirements for scientific and technical schools. Enough of mathematics, science, history, modern languages, etc., should be added to these courses to make requirements quantitatively and qualitatively equivalent to those of the academic course. It was suggested that the few colleges requiring solid geometry for all courses join the large majority and drop solid geometry from the A. B. course, and keep it in technical courses, and possibly add plane trigonometry to the latter. This would give more time for plane geometry and help in two ways toward equalizing requirements. About one and a half years of science was favored for A. B. and Ph. B. courses, and two and a half to three years for technical courses. Laboratory preparation was recommended, and something like the Harvard option between two sciences without laboratory work, or one with it, was favored. Two to three years were recommended for history, except in A. B. and Ph. B. courses, in which one year would suffice. It was urged that the English requirements outlined by the Philadelphia conference be generally adopted, but advised that in all, except classical preparation, more English literature and historical grammar be demanded. Four years' work in foreign language, two years in each of two languages, was advised for technical courses. The University of Michigan was urged to increase the Greek requirements in harmony with those of other colleges. The Vergil requirement should be limited to six books of the Æneid. The Harvard "qualitative" requirements in Latin and Greek were favored by a large majority of prominent high-school men, and their general adoption was urged. It was urged that a modification of the general Harvard system be adopted, with high requirements for technical courses. The college which honestly desires unity will drop idiosyncracies, which tend to isolate the college and drive away the best class of students.

VIEWS OF ACADEMIES

PRINCIPAL W. H. BUTTS, - - - - - ORCHARD LAKE

The percentage of replies received from different sections may indicate greater or less advancement in educational aims and methods, or it may show where there is the most pressing demand for change. In Delaware, New Hampshire, Vermont, and Oregon all responded and expressed great interest in uniting all sections in a system which should render secondary instruction more uniform, less expensive, and more effective in preparing for college and for life. In Michigan 75 per cent. responded; in Ohio and Pennsylvania 70 per cent.; in Connecticut, Kansas, Massachusetts, Mississippi, and New Jersey, 50 per cent.; in Illinois, Indiana, New York, Texas, and Virginia, 30 per cent.; and in Missouri, 20 per cent. None of the great preparatory schools, East or West, failed to respond. The apparent lack of interest in the South and in some parts of the West is due largely to the fact that academies do not flourish there as in New England, owing to the system of State universities and graded schools fostered by State grants and special privileges. State control and supervision, modeled on the Michigan plan, have created educational systems in a large part of the United States, more complete in many ways and more closely articulated than those of Germany. The victories won and the lessons learned only prepare the way for national unity and uniformity. The report of the Committee of Ten is the first constitution of educational America. The Colonial days have passed away. We need now close union and wise legislation.

In response to the first question, 39 per cent. of all answers favored one year of physics for all courses, 17 per cent. favored chemistry, 6 per cent. botany, 3 per cent. geology, 3 per cent. physiography. Physics and chemistry were favored by 16 per cent., physics and physiology by 6 per cent., physics or chemistry by 3 per cent., physics for the A. B. course, with chemistry added in other courses, by 3 per cent. Of all answers 40 per cent. favored physics, chemistry, or biology, with laboratory work in the science chosen, for the A. B. and Ph. B. courses, and physics with another laboratory science in all other courses. The East and the West could unite on this basis, thus enabling small schools, as well as large, to do good work in at least one science, and send men to college with good laboratory methods and a maximum amount of useful knowledge. In regard to satisfactory laboratory facilities, 33 per cent. answered "no" without qualification, 30 per cent. had facilities in three sciences, 33 per cent. in only two, and 3 per cent. in only one. Thus 63 per cent. now teach two laboratory sciences. Of those who did not have facilities, 53 per cent. could easily obtain them.

In the Latin requirement 81 per cent. favored reducing Vergil to six books of the Æneid. The Georgics and Bucolics were generally condemned. In Greek, 44 per cent. would reduce the requirement to two years and to Attic prose, 47 per cent. favored three years with Homer, 3 per cent. two years with Homer, 3 per cent. three years without Homer, and 3 per cent. would require no Greek. The teaching of Homer with Attic prose in two years was opposed by 81 per cent. Four years of a foreign language, preferably Latin, in all courses, was favored by 52 per cent., four years of a modern language by 17 per cent., four years of any foreign language was opposed by 32 per cent. One-fourth of those opposed favored two years of Latin in all courses. For the A. B. course, 57 per cent. favored one or two years of one modern language, 39 per cent. preferred two languages for the same time, 4 per cent. objected to any for the A. B. course.

For history requirements, 39 per cent. favored two years' work in American, English, Grecian, and Roman history for all courses, 39 per cent. would require about one and one-half years of American, Grecian, and Roman history for the A. B. course, and the same amount of American, English, and epochs of general history in all other courses. General history was opposed by many as difficult and unprofitable. Solid geometry in all courses was opposed by 55 per cent., all the leading preparatory schools in the East, with two exceptions, voting in the negative. In the central and Western States the large majority were favorable.

A majority of all answers considered Harvard nearest the ideal in requirements for admission, and favored common elementary requirements, East and West, with advanced requirements sufficiently numerous in each university to allow individuality among secondary schools and higher institutions. The majority of the responses considered preparation for college the same as for life.

UNIFORM STANDARDS AS VIEWED BY THE COLLEGES

PRESIDENT ELIOT, - - - - - HARVARD UNIVERSITY

In the first place it seems to me that the most hopeful method is to adopt as a temporary outline of desirable groups of studies for secondary schools, the four programmes recommended by the Committee of Ten. These programmes may serve a useful purpose for perhaps ten years. As soon as the elementary schools are substantially improved in accordance with the recommendations of the conferences, it will be possible to improve greatly the Committee's programmes for secondary schools; but for temporary use they may be said to afford the best general guidance now accessible.

Secondly, I think that colleges and scientific schools should, if possible, be induced to accept any one of these four years' courses of study as qualifying satisfactorily for admission to corresponding courses in the colleges and scientific schools, and furthermore to raise, gradually and with adequate notice, their own standards of admission to the level of these programmes, subject by subject.

Thirdly, the practicable mode of doing this seems to me to be as follows: Let a group, the larger the better, of American universities maintain admission examinations in all the subjects which enter into those four programmes; let every institution belonging to the group, and as many other institutions as can be brought to act with them, declare each for itself how many and what examinations it will absolutely require for admission, and how many and what choices among the remaining subjects it will permit; taking care, however, not to demand more, in the sum of prescribed and optional subjects, than the total represented in any one of the four programmes of the Committee of Ten. Each university or college might make its own arrangements as to the use it would make of the complete set of examinations; but all would maintain the same standard in each subject, and would permit any and every subject in the list to count toward admission in some way or other. By means of large options, taken from a uniform and ample list of studies, the individuality of different schools and of different colleges can be preserved.

The requirements for admission to Harvard College may perhaps indicate the manner in which options can be used. Certain elementary subjects are absolutely required for admission, and then wide choice is given among several advanced subjects. For national purposes a selection of both prescribed and optional subjects wiser than the Harvard selection might be made; but the general plan offers a good type, because it permits a tolerable range of choice. The programmes of the Committee of Ten of course suggest that the range of choice should be made wide; the prescribed subjects and parts of subjects being limited to those which are common to all four programmes, and a considerable addition being made to the number of the optional advanced subjects.

At Harvard we are satisfied that a great deal is gained for language instruction in secondary schools by making reading at sight a more important part of the admission examination than acquaintance with certain specified texts. The reading of prescribed quantities of Latin, Greek, French, or German should, in my opinion, play a subordinate part.

It is true that the substitutes for Greek which are permitted in the Harvard requirements for admission are more difficult than the Greek, and take more of the pupil's time. This was intentional with the Harvard Faculty. The result has been, as I pointed out in my report for 1891-92, that the persons who have thus far entered Harvard College without Greek have made records in college which are distinctly above the average, and have proved conclusively that they are abundantly able to profit by college life, and win a standing which on the average is above those who entered with Greek. I believe that accepted substitutes for traditional subjects should never be made easier than the traditional subjects. That is not the way to win respect for the new subjects, or to prove their equivalence to the old subjects. Great care should be taken when history, the modern languages, sciences, and English are accepted for admission to college, that the requirements in these subjects should be unquestionably equal in quality and quantity to the requirements in Latin, Greek, and mathematics. Thus, the requirements in English, taught four years as proposed by the Committee of Ten, should be as serious as those in Latin, taught four years in the same programmes. We should not aim to open easy ways into the colleges and scientific schools, but we should try to open various new roads, all of which require as much energy and judgment to travel them successfully as the old roads require.

I may add that the Harvard requirements in physics, which have been in use for the last eight years, have worked admirably and certainly point the way to a satisfactory solution of all questions about requirements in the sciences.

PROFESSOR BUTLER, - - - - - COLUMBIA COLLEGE

1. I favor a requirement in laboratory physics, on the ground that this subject can be most readily taught and most readily tested. It also involves training in accurate measurement, which is one of the chief benefits of scientific teaching at that age. I should, however, allow alternatives, say chemistry, zoölogy, or botany, in order that schools having varied equipment and various local needs to meet might be under no disadvantage in preparing students.

2. I would require a minimum of one year of physics, chemistry, or biology, including laboratory work, in all college courses of whatever character.

4. I favor abolishing the present requirements in Latin entirely, and substituting therefor an ability to read at sight easy Latin prose. The ability that I have in mind ought to be gained by the average pupil with three years of good teaching.

5. I would limit the Greek preparation to the ability to read at sight easy Attic prose. Such ability could be gained in two years. As to the second part of this question, I beg to say that I understand, on the best authority, that the three books of Homer and the easy Attic prose are in very many cases taught in two years at present.

6. I do not believe in requiring four years in any foreign language in all college courses, or in any college course. Ample provision should be made for instruction in Latin, Greek, French, and German, and opportunity given to the student to select freely among them.

7. All candidates for the degree of A. B. should be able to read readily French and German. One of these can be required for admission and the other taught in college.

8 and 9. I would make the study of history and solid geometry in college an elective matter entirely.

10. The requirements for admission to Harvard College are the ones that, in my judgment, best preserve the proper relations between the several subjects; that are best adapted to test the real ability of the candidate; and that are best calculated to assist in improving the work of the secondary schools. These requirements, however, seem to me to fail in that they postpone to too late a date, by nearly one year, the age of admission to college. If I had the power, I should alter them in two respects: First, by decreasing in difficulty the alternative now offered for Greek, which seems to me unduly severe; second, by reducing the quantity of work required, so as to permit students to enter college a year earlier than now.

11. Secondary schools can easily carry more work than fifteen prepared and five unprepared lessons per week. The total of number lessons prepared and unprepared should not be less than twenty-five.

PRESIDENT SCHURMAN, - - - - CORNELL UNIVERSITY

I am very much interested in the unification of the requirements for admission to American universities, and have recently pointed out that this is the next question which American educators will have to face; and I think it should be accomplished by a committee representing the colleges and schools, as was the case with the Committee of Ten.

1. I am not yet convinced that science should be required for admission to colleges and universities. We understand pretty well how to teach foreign languages and mathematics to school pupils; but we are still experimenting with the art of teaching science, as with some other things, notably our own language. I incline to the opinion that, if a science is required, the choice should not be restricted to physics or chemistry, but that botany, entomology, and vertebrate zoölogy should have a chance also. In any event, not more than one year's work should be demanded; that is to say, the work covered in a school year by two or three meetings a week.

2. I am in favor of one year of some science, with laboratory work, in A. B. and Ph. B. courses. No doubt, the B. S. course should require more science; but I doubt whether the student who is specializing in natural history should be required to take physics, as it would be of no use in his later scientific studies.

5. Were it not that boys are delighted with Homer, I should certainly favor the limitation to Attic prose. I know exceptionally bright students, by working hard, can cover the field both of Attic prose and Homer; but I fear it is too much for the average student.

6 and 7. I think that, in the A. B. course, one ancient classical language and one modern language other than English should be required for at least two years; and, while I should be willing to prescribe this study for three years even, I should hesitate to say four. I would not, however, prescribe Latin or Greek in any other courses than the humanistic courses (A. B. and Ph. B.). I think that, in the scientific courses, while Latin might profitably be required for admission on account of its value for linguistic training, it ought not to be required after entrance, when all the time that can be spared for languages should be given to French and German. I am in favor of one modern language in the A. B. course, but, instead of requiring a second

modern foreign language, I should much prefer the second ancient language. That is to say, my ideal is, as a minimum, one ancient language and one modern language; but, if the course will stand it, I would add a second ancient language. All these languages should be pursued two years at least.

8. I do not see how history can be prescribed in any courses except the humanistic courses, and, if Greek and Latin are both required in the A. B. course, I should not prescribe history, but offer it as an elective. The reason why I am in favor of making one of the two ancient classical languages an elective is in order to find time for the study of history, economics, etc.

9. I do not favor solid geometry in any course whatever, except where it is needed for subsequent work. The formal training derived from mathematical study is soon obtained. After Abraham Lincoln had gone over one or two books of Euclid by himself he said: "Now I know what demonstrative reasoning is"; and if other pupils do not make this discovery so early, I doubt very much if they need more than a year or two of work to reach it. This principle of the *using* of each study for subsequent studies, seems to me to furnish a criterion for determining the amount of mathematics which should be required in the respective courses. In the humanistic courses (A. B. and Ph. B.), I do not believe solid geometry should be prescribed.

12. I am inclined to think that the two foreign languages course, both modern, recommended by the Committee of Ten, is a mistake, except for students who are entering scientific schools. I think, as a preparation for life, that Latin should be required and only one modern language, if even that. Latin one can justify for its value as a linguistic training, but a modern language has little or no value unless it is to be used, and very few persons taking such a course would, I presume, ever need the French or German afterward.

PRESIDENT HARPER, - - - - UNIVERSITY OF CHICAGO

President Harper would require at least one year of laboratory physics in all courses, would reduce Vergil to six books of the Æneid, but would not limit Greek to two years and to Attic prose. He would require solid geometry, American and general history in all courses, and a reading knowledge of two modern languages in the A. B. course. He thinks it advisable and practicable to form in the West an association which shall have for its purpose the securing of uniform admission to all colleges.

PRESIDENT PATTON, - - - - COLLEGE OF NEW JERSEY

President Patton would limit Vergil to six books, if other authors are read, would prefer three years' preparation in Greek and require two modern languages for the A. B. course. He favors solid geometry for all courses.

PRESIDENT JORDAN, - - - - STANFORD UNIVERSITY

Requirements are alike for all courses at Stanford University. President Jordan makes no requirement in any particular subject, except English composition, but accepts no work in any subject unless he can build upon it. He would leave the choice of sciences to individual tastes and needs, but would accept no science work except done in the laboratory for at least one year. Credit is given in Latin, but not for less than two years' work. Particular books and authors are not essential. Solid geometry is favored for most students, and any *real* history is preferable to general history.

President Jordan believes the Stanford system the only permanent and tenable one, and says that nothing would induce the Faculty to change it.

PRESIDENT BAKER, - - - - UNIVERSITY OF COLORADO

President Baker favors one year of physics for the A. B. course, with the addition of chemistry and biology, one year each, for the B. S. and Ph. B. courses. He would reduce Vergil to six books of the Æneid and limit Greek to two years and to Attic prose. He would not require solid geometry for all courses, or allow the history of Greece and Rome as a substitute for general history.

PRESIDENT ADAMS, - - - - UNIVERSITY OF WISCONSIN

President Adams states that the scheme of the Committee of Ten is not yet workable in Wisconsin, as its adoption would throw out some things to which the schools of the State are wedded. He is not so much interested in having uniformity of requirements of admission to the American universities, as in having the standards advanced along certain lines in Wisconsin, so as to give to the University course greater symmetry and efficiency. Instruction in science is much better than in history or in the languages owing to the prevalence of the disease in favor of the so-called practical studies. Most of the secondary schools have laboratories for teaching physics, as well as chemistry and physiology. Instruction in German is very poor generally in the schools, and less than one-half of the high schools have a good two years' course in Greek. He favors four years of a foreign language, but considers the requirement entirely impracticable. He does not consider it practicable, at present, to get either modern language in addition to Latin and Greek for the A. B. course. His ideal university would not teach any beginning classes in foreign languages. He would go as close as possible to the recommendations of the conference report of the Committee of Ten, in teaching history. He states that solid geometry is required for admission to all courses in the university, but expresses no opinion as to the wisdom of this requirement.

PRESIDENT JESSE, - - - - UNIVERSITY OF MISSOURI

President Jesse favors reducing Vergil to six books of the Æneid. The Eclogues are of little value, and the Georgics are too difficult for the high school. He has little faith in general history in the high school, and would accept as a substitute the history of any of the great nations. He favors fifteen prepared and five unprepared lessons per week as a rule, but not as an inflexible one. He has little faith in scientific work, unless done with laboratory methods, and he would wholly exclude teaching by lectures.

ACTING-PRESIDENT IRVINE, - - - WELLESLEY COLLEGE

Mrs. Irvine states that Wellesley has adopted the recommendations of the commission of the N. E. Colleges in literature, English, and modern languages, and is admitting students with and without Greek, permitting a science to be offered in place of a third language. The college policy is in favor of uniformity in so far as it tends to raise standards. Uniformity is to be recommended to the point of acceptance by some colleges of all, by others of some, of the programmes of Table IV. Colleges of higher rank might accept the first two programmes, others of lower rank might profitably accept all four.

PRESIDENT SEELYE, - - - - - - SMITH COLLEGE

The most successful method of securing unity and uniformity is to form associations like the New England Association, where all subjects of mutual interest can be freely discussed. It has been the policy of Smith College to accept, as far as it could consistently, the recommendations of the association.

Out of these elaborate and carefully prepared opinions it will now be possible to extract a few specific questions for careful investigation. The Associations of Colleges and Preparatory Schools in New England, in the Middle States, and (yet to be formed) in the Northwest, should co-operate in pressing these problems to a solution.

Three members of the Schoolmasters' Club were chosen to join President Angell of Michigan, President Harper of Chicago, President Adams of Wisconsin, and President Rogers of Northwestern University, in a call for a meeting of an Association of the Colleges and Secondary Schools of the North Central States, at Ann Arbor, March 19, 1895. President Boone of the State Normal School, Principal Butts of Michigan Military Academy, and Principal Greeson of Grand Rapids, were elected to represent secondary schools in making this call.

WILLIAM H. BUTTS

ORCHARD LAKE, MICH.

V

THE RELIGIOUS ISSUE IN THE LONDON SCHOOLS

The recent triennial election of members to serve on the School Board for London has excited unusual attention in England, because it was generally felt to have an important bearing on the future educational policy of the whole country, and to raise many questions of principle which were of permanent, and not merely local and temporary, significance. It seems to me that some of these questions, and some slight notice of the manner in which Londoners have replied to them, may interest American readers, albeit the traditions of their public school system differ so largely from those which prevail in England.

It may not be unfitting if I here transcribe from a recent article of my own,[1] written a few weeks before the election, a preliminary statement of some facts which, though somewhat trite, may be needed to make the nature of the recent contest intelligible to readers at a distance, who are not familiar with English schools:

> Our English system of primary education—if system it may be called—differs essentially from the systems in force in the European and American continents. It has not been fashioned as a whole by any statesman or philosopher, but has become what it is by the slow process of evolution, and by the teaching of experience. It is not, as in Lower Canada and in some of the German States, a denominational system, which, assuming that every citizen is either a Catholic or a Protestant, provides two kinds of religious instruction at the public charge. Nor is it, as in France or the States of the American Union, a purely secular system, which excludes theology in any form from the common school, and leaves the Churches to give supplementary teaching in their own schools, and at their own cost. It is the product of a long series of tentative efforts, concessions, and compromises; and though lacking in uniformity and symmetry, like many other English institutions, it has shown in the course of years a power of adapting itself to the

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[1] *Nineteenth Century*, July, 1894

changed circumstances, to the feelings and traditions, and to the religious opinions of the English people.

This general statement is conspicuously illustrated in two ways: (1) in the recognition of voluntary and denominational schools as part of the public provision for instruction; and (2) in the constitution of those rate-aided schools which have been called into existence by the agency of School Boards. From 1839, when grants were first made by the newly constituted Committee of Council on Education, down to the Act of 1870, all the work done by the Education Department was effected by way of "grants in aid" to local and voluntary bodies. The State established no schools, and took no steps to require that schools should be supplied where the provision was insufficient. It simply availed itself of voluntary agency; confided to the hands of local committees full control over the choice of teachers, the course of religious and other instruction, and the general management; and made liberal annual grants on the very easy conditions that the teacher should possess a proper qualification, and that the school should be open to inspection, and should conform to the regulations laid down in the Code. Since 1870, the further conditions exacted have been that two hours of unbroken secular instruction shall be given at each meeting of the school, and that parents may claim exemption from any religious instruction which they disapprove.

The Board Schools which have been since established, in accordance with the provisions of the Act of 1870, are required to fulfill the same educational conditions. They receive annual grants on the same scale, determined partly by the numbers in attendance, and partly by the efficiency of the teaching, as shown by the official examination of the scholars. The Boards are at liberty to make their own arrangements respecting religious instruction, subject only to this provision: "No religious catechism or religious formulary which is distinctive of any particular denomination shall be taught in the school." This is the well-known "Cowper-Temple clause."

A system of public instruction such as this would necessarily appear to an Abbé Sieyès or to the framers of the Code Napoléon to be lacking in unity and logical coherence. But it has, at least, succeeded in placing within the reach of every child in the country an elementary school under public supervision, and conforming with more or less success to the regulations laid down by Parliament. And it has so far conciliated the various religious and philanthropic bodies which have concerned themselves with public education that not one of them holds aloof; all have accepted the conditions imposed by the State; all receive its aid, and are co-operating loyally with the Education Department in the fulfillment of a great public work. These results are worth attaining, even at the cost of some loss of symmetry and of theoretical perfection.

The continued recognition of the voluntary schools, established to a large extent by religious bodies, as part of the national provision for elementary instruction, is the chief and most characteristic feature of the English system. And in the course of a long life, of which more than half has been spent in close contact with schools and training colleges, I have learned to set a high value on the collaboration of the voluntary agencies with the State. Those agencies supply us with schools of different kinds, all alike in seeking to give sound elementary instruction, but differing materially in method, in organization, and in many minor details of administration. From an educational point of view this variety is of great importance, as it is most undesirable that all the schools of the country should be of one type. Moreover, the denominational schools enlist in the service of the State a large body of intelligent, philanthropic, and religious persons who are often in close sympathetic relations to the children and their parents, and whose very effective aid would not be available under a system controlled altogether by Imperial or municipal officers.

Yet, notwithstanding the zeal and effort by which, since the passing of the Education Act, voluntary schools have been established and maintained, so that the average attendance in those schools which stood at 1,152,389 in 1870 had risen to 2,300,377 in 1892, the number of scholars in the Board Schools shows a much more rapid rate of increase, and the last report of the Education Department states that the average attendance in those schools, which in 1874 was 138,293, and in 1876 amounted to 328,071, had reached 1,704,130 in the year 1893. Year by year the disproportion in the rate of increase between the two classes of schools becomes more marked; and thus the character of the religious teaching in the Board Schools becomes more and more a matter of concern to that large portion of the English people who attach value to such teaching.

There are now 2392 School Boards in England and Wales. In the exercise of the discretion allowed under the Act, 91 of these Boards have determined to omit religion altogether from their scheme of school work; 70 of these Boards are in Wales and 21 in England, but they are without exception in comparatively obscure villages, and with a very small population. In the schools of the rest, including all the boroughs and places of importance, the Bible is read and careful provision is made for religious teaching. Birmingham stands nearly alone among towns in requiring that the Scriptures shall be read without note or comment. But it may be said generally that the Board Schools concur in principle with the policy from the first adopted by the School Board for London. The regulations of that Board provide that "the Bible shall be read, and there shall be given such explanations and such instruction therefrom in the principles of morality and religion as are suited to the capacities of children." The teachers are further instructed "to make the lessons as practical as possible, and not to give attention to unnecessary details." A syllabus has been drawn up making provision for regular progressive lessons, including the Lord's Prayer and the Ten Commandments, sacred biographies, the historical parts of the Bible, facts and lessons from the life of our Lord, the principal parables, and the learning by heart of passages inculcating truthfulness, temperance, and obedience to parents. Regular examinations are held in these subjects periodically by the Board's officers; and the Board has cordially accepted the offers of Mr. Francis Peek and of the Religious Tract Society to award prizes for Scripture knowledge. The prizes and certificates thus offered are much valued. At the last examination, the head teachers were allowed to send up ten per cent. of the scholars in the highest three standards for a special written examination in Scripture. Of the 6908 scholars thus examined—boys and girls—1027 obtained prizes and 2231 were entitled to certificates. A similar system of graduated instruction, of examinations and prizes, exists for the pupil teachers, and the reports of the examiners show that great attention is given by the teachers to this part of their duties.

The outcome of these arrangements, which, *mutatis mutandis*, may be said to prevail generally and to be characteristic of the entire system, is that a successful effort is made in the Board Schools to bring up the children in the fear of God, with a reverence for His Word, a considerable knowledge of the history and poetry of the Bible, and of its plainer moral lessons, and especially of the life and teaching of our Lord; but that it is no part of the duty of the teacher to give instruction in controversial theology, or to permit the school to serve as a propaganda for the tenets of any particular religious denomination. No one who knows the schools well can doubt that under these limitations religious and moral teaching of a very precious kind is imparted in the schools, and that the influence of this instruction on the conduct and the character of the children, and on the religious life of the nation, has been profoundly felt.

It may be thought by some that it is descending to a lower ground when we speak of the biblical instruction as a great civilizing power and as an elevating and refining influence on the intellectual life. But this aspect of the question ought not to be overlooked. Mr. Matthew Arnold was wont to insist on it with characteristic lucidity and energy. Literature, he always urged, was an essential factor in the cultivation of character and taste, and this is largely provided in higher schools by the study of the ancient classical writers. But for the mass of the people this kind of cultivation is only to be attained in one way.

"Only one literature there is—one great literature for which the people have had a preparation—the literature of the Bible. However far they may be from having a complete preparation for it, they have some, and it is the only great literature for which they have any. . . If poetry, philosophy, and eloquence—if what we call in one word *letters*—are a power, and a beneficent wonder-working power in education, through the Bible only have the people much chance of getting at poetry, philosophy, and eloquence. . . Chords of power are touched by this instruction which no other part of the instruction in a popular school reaches, and chords various, not the single religious chord only. The Bible is for the child in an elementary school almost his only contact with poetry and philosophy. . . All who value the Bible may rest assured that thus to know and possess the Bible is the most certain way to extend the power and efficacy of the Bible."[2]

And in expanding this view into more specific suggestion, he gives in one of his reports this counsel to school managers—counsel which has been virtually adopted now by School Boards throughout the country:

"Let them make the main outlines of Bible history, and the getting by heart a selection of the finest Psalms, the most interesting passages from the historical and prophetical books of the Old Testament, and the chief parables, discourses, and exhortations of the New, a part of the regular school-work. This could raise no jealousies, or if it still raises some, let a sacrifice be made of them for the sake of the end in view. Some will say that what we propose is but a small use to put the Bible to, yet it is that on which all higher use of the Bible is to be built, and its adoption is the only chance for saving the one elevating and inspiring element in the scanty instruction of our primary schools from being sacrificed to a politico-religious difficulty."[3]

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[2] Preface to *The great prophecy of Israel's restoration. A Bible reading for schools.*

No practical difficulties have arisen in the interpretation or in the actual working out of the very simple and intelligible programme of the School Board. Of theoretical difficulties, indeed, much has been said on platforms and in pulpits, and by writers in religious newspapers, who cannot believe that any religious instruction can deserve the name which does not favor the interests of some particular sect or party. These theoretical difficulties, however, are virtually unknown in the school itself. The skilled teacher who finds himself face to face with little children, and who knows something of their character, their present immature opinions, and their spiritual and moral needs, soon learns to feel how infinitely petty and irrelevant are the topics which furnish the watchwords of rival parties, and the staple of sectarian disputes outside. To such a teacher, or indeed to any thoughtful Christian parent, probably the last thing he would care to discuss with a young child would be the difference between Church and Dissent, or between the tenets of a Baptist and those of a Unitarian. These differences, no doubt, become serious and significant as life advances and as opinions are formed. But they have little or no meaning to a young child, and are wholly out of place in a scheme of primary instruction.

Now it is manifest that an arrangement of this kind implies, on the part of those who maintain it, a spirit of conciliation, and a readiness to forego some of the advantages which the earnest members of any section of the Christian Church would desire to secure, if they acted apart from the rest of the community, and were free to instruct the children in the distinctive tenets of their own communion. Considering the diversities of religious belief among the English people, it is simply impossible to provide, in the common school, theological instruction in all cases suited to the convictions of the parents. And hence the plan which has now been in force for twenty-three years, and which provides simple unsectarian Bible teaching in the Board Schools, and leaves to the Sunday Schools and the Churches the task of supplying whatever else of definite doctrinal instruction is desired, has on the whole commended itself to the majority of practical men. It has in fact so far proved acceptable to the parents that, out of about half a million of scholars in the London Board Schools, the claim for exemption from religious lessons, which under the name of the Conscience Clause is the statutory right of every parent, has only been made in the case of about four hundred children, chiefly those of Jewish and Roman Catholic parentage.

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[3] Report to Committee of Council on Education (1869), p. 299.

It may be said generally that those who wish to maintain the existing compromise are willing to subordinate the special interests of their respective sects or Churches to those larger interests of moral and religious culture which are common to all Christian Churches alike. But the position they occupy is thought by many to be illogical; it is unsatisfactory on the one hand to those who think that religious teaching not founded on definite and dogmatic articles of faith is unreal and useless; and on the other to those who believe that the province of the State in the matter of education should be strictly limited to secular subjects, and that the whole business of religious teaching and discipline should be relegated to the parents and to the Churches. It will readily be believed that in a Board composed of fifty members, elected by popular suffrage, there are some who incline to one or other of these extreme views. Roughly, however, the Board is divided into two parties, the one calling itself *Progressive*, consisting mainly of persons of liberal politics, whose chief aims are avowed to be the full development of the School Board system, liberality and efficiency in the schools, a scrupulous adhesion to the existing arrangement respecting religious instruction, and a watchful dread of any measure which would allow the schools to become a propaganda for the distinctive doctrines of any sect. The other party, which is generally known as that of the *Moderates*, is composed largely of Conservatives in politics and members of the Established Church. Among these are many who show equal anxiety to make the schools efficient; but who dislike any policy which would seem in the least degree hostile to the interests of the voluntary schools. As a rule this party may be said without offense to be rather less enterprising and liberal in its educational policy than the other. In the Progressive party are two or three avowed secularists; but they have never succeeded in inducing their colleagues to reduce the amount of religious teaching or to depart in any way from the existing compromise. On the other hand, the Moderate party, which in the Board elected in 1891 was in a substantial majority, contains two or three active members, including the late chairman, who think that the teaching given in the schools is not definite enough; and who have been alarmed by the belief that Arianism or some other form of heresy might be taught, if the regulations laid down by the Board were loosely interpreted. They have accordingly drawn up a circular of instructions to the head masters and mistresses of the schools, and in this document it is set forth that the Board desires the theological teaching to be distinctively Christian; and proceeds to define the essentials of the Christian faith in terms which amount to a statement of the doctrine of the divinity of Jesus Christ, and the orthodox Trinitarian creed. The whole body of the Moderate party adopted this view, and the circular was duly issued. A storm followed. More than three thousand of the teachers protested against a regulation which diminished their freedom and placed a new and more stringent interpretation on the requirements of the existing syllabus. The ministers and members of the various nonconformist Churches, who had up to that period been accustomed to work very harmoniously with members of the Established Church in the management of the schools, looked upon the circular not only as unnecessary, but as a violation of the compact on which the religious policy of the Board had hitherto been based, and they looked forward with some alarm to the prospect of a succession of new interpretations of Christian truth, by zealous sectaries who might happen to command from time to time a majority in the Board.

In these circumstances, the election in November last became one of exceptional interest, and gave rise to an unusual amount of public discussion. The religious question practically overshadowed all other matters of controversy, and the battle was mainly fought on the policy of the circular; and on the question, "Shall we rest content with the arrangement we have for securing to the children some acquaintance with the

Scriptures, and some appropriate yet unsectarian religious training? or shall we declare the existing provision unsatisfactory, and seek to impose new tests and guarantees of orthodoxy on the teachers in our common schools?"

The metropolis is divided into ten boroughs or districts, each of which elects four, five, six, or seven members according to its population. An elector, *e. g.*, in a district which returns five members, has five votes, and can give them all to one candidate, or distribute them at pleasure. This device was adopted by Mr. Forster, the author of the Education Act of 1870 with the avowed purpose of protecting the interests of minorities, and of trying on a comparatively small scale an experiment in proportional representation. It was felt that several sections of the electors, *e. g.*, the Roman Catholic voters, were not numerous enough to carry one of their own candidates by the ordinary mode of election, and were yet entitled to some representation in regard to so important a matter as the education of their children received into the common school. By what is called in electioneering slang "plumping," it becomes possible for a well-drilled body of electors, even though numerically small, to secure one candidate out of five or six. In this way the efforts of the head masters and mistresses of the schools have in one or two instances succeeded in placing a nominee on the Board. A little reflection will, however, show that such a mode of election may easily fail to secure a true representation of the wishes and feelings of the inhabitants. Much care is needed in the selection of the candidates by the rival parties, and still more in the allocation of the votes among the candidates of each group. The fear lest the party should not prove strong enough to carry, for example, three members in a constituency entitled to elect five, induces the electoral committees to put forth two only, and to advise their friends to divide their votes between them. It perhaps proves that the party is unexpectedly strong, and in that case much power is lost. In the recent election many votes were wasted in this way. In nine out of the ten districts into which London is divided, a Progressive candidate headed the poll by a large majority; the total number of votes cast in favor of the party exceeded by nearly 150,000 the total polled for the Moderate candidates; and this number represents a plurality of about 30,000 persons. Yet owing to the capricious operation of the cumulative vote, the result was to give to the Moderate, or as it is often called, the Church or the "dogmatic" party, a majority of three on the Board, the number being 29 of that party as opposed to 26 Progressives.

This result was not expected, as the whole political organization of the Conservative party and a large number of the clergy of the Established Church were enlisted on the side of those who had framed the circular, or who helped by means of it to take new securities for doctrinal orthodoxy in the Board Schools. In pulpit and on platforms, much was said about the importance of definite Christian teaching; and many electors were easily led to believe that there was no religious teaching at all in those schools. Hence it happened that in the richer districts of London, inhabited mainly by persons whose own children do not attend the Board Schools, and who are for the most part Churchmen and Conservatives, there was a considerable Moderate vote; but in all those parts of London where the people use the schools most, and know them best, the majority for the Progressives was overwhelming and decisive. Had this been foreseen, and had the party leaders had the skill to manipulate the cumulative vote, the new Board would have resulted in a clear majority of five to that party, instead of a minority of three.

In these circumstances the Moderates will be clearly unable to give effect to the policy to which their party had committed itself: and although it happens to be numerically a little stronger on the Board, it has been so weakened and discredited by the recent discussions and by the verdict of the constituencies, that the revival of the circular, or of any attempt to *exploiter* the public schools in the interests of orthodoxy as understood by the Church of England, is now practically impossible. Substantially it may be said that to the question submitted to the voters at the recent election: "Do you wish for a continuance of the system which seeks to give, to make the Bible an effective instrument both in the intellectual and the spiritual education of the young?" the answer of the London electors, especially of the parents of the children concerned, has been emphatically in the affirmative; while to the further question, "Do you desire to supplement the present scheme of religious instruction by any more formal statement of theological doctrine?" the reply has been an equally emphatic negative. On the whole it is virtually certain that the cause of Scriptural but unsectarian instruction in the common school has been greatly strengthened by the recent election, and may be regarded as firmly established for the present at least.

It seems to me that this is a result on which the community may well be congratulated. To omit the literature and poetry of the Old Testament and the moral teaching of the New Testament from the curriculum of our elementary schools would be to part with much that is ennobling and refining, and that has a visible influence on the conduct and aims of our scholars. On the other hand, to bring into prominence, in the instruction of young children, dogmas and articles of faith which are necessarily unintelligible to them, and which belong properly to a later stage in the Christian life, is to involve ourselves in endless controversy and difficulty, which would assuredly lead ere long to the abandonment of religious instruction altogether, and to the establishment of a purely secular system.

A deeper question, one of more vital interest to teachers than any concerning educational politics or sectarian rivalry, is involved in the recent discussion, "What is the sort of elementary teaching in the principles of religion which is best suited to the nature and needs of childhood, and which is most likely to prove a good foundation for a noble Christian life?" By a large number of earnestly religious people, and by nearly all the ministers of religion, the question would probably be answered in the same way: "Teach the young learner first of all what he is to *believe*. Formulate a creed which shall embody all the essentials of Christian truth, and make him accept it, or at least learn it by heart." Thus catechisms and confessions of faith have come to be regarded by many as the logical and necessary preliminaries to the formation of religious character and conduct. But experience does not corroborate this theory. It is not found that the method serves its intended purpose. Young people who have been forced in early years to affirm propositions which they do not comprehend, find in later life that this educational discipline has done little or nothing to shape their maturer convictions; nay, rather, that it has often had the effect of producing a strong reaction, and creating an impression that an unfair advantage has been taken of their youth and inexperience. And there are other reasons which may well cause teachers to distract some of the traditional methods of inculcating doctrinal truths in young children. All the best students of the philosophy of mind, and of the nature of childhood, have learned to revise their methods in other departments of instruction. The older writers on grammar, on geography, on science, were wont to place at the beginning of their treatises, definitions, rules, and formulas, which, because they embodied important truths, were pressed on the acceptance of the young scholar at the threshold of the temple of learning, and supposed to form the best guides for his future progress. But a skilled teacher, who has studied the material on which he has to work and the forces at his command, knows well that he should adopt another method. If he has to teach arithmetic he does not begin with a rule; he offers an example, makes clear the nature of the problem which has to be solved, invites the co-operation of the scholars in "thinking it out," and working it; and at the end says to them: "Now, what should be our rule for dealing with such problems in the future? Let us put into words the arithmetical truth we have arrived at." So in grammar, in science, and in all lessons on the phenomena of the visible world, and on conduct and daily life; the illustrations are first given, the interest and observation are quickened; facts are noted and verified, and then the larger truth which explains and summarizes them all emerges by degrees, and is enunciated and lodged in the memory. It is taught last, not first. There is only one apparent exception to this rule, that of the axioms and postulates in pure mathematics. But these are self-evident as soon as they are stated. Intuition here makes verification superfluous. But neither in mathematics, nor in any other department of secular knowledge, do the best teachers now invite their pupils to acquiesce in large formal generalizations of truth, until they have led up to them by previous appeals to the intelligence, to the experience, to the curiosity, or to the sympathies of those pupils. Can it be supposed that an opposite method is likely to prove effectual in regard to the highest and most sacred of all the subjects of instruction? Do not the life and teaching of Jesus Christ, the history of saints and prophets, the poetry of Isaiah and the devout aspirations of David furnish a truer and more effective introduction to a life's course of religious training, than any of the theological propositions on which religious men differ; and which derive all the value they possess to the mature Christian from the fact that they are the result of his own thought, conviction—possibly of struggle; and have not been prematurely forced on his acceptance by the authority of others? No one who looks with fresh eyes on the life and possible destiny of a little child, and tries to realize his danger, his temptations, his weakness, the manifold forms of evil which will beset him, and against which he should be guarded, can seriously suppose that heresy is the one danger against which precautions most need to be taken. It is surely not the first duty of a teacher to form a young child's opinions; but to inform his understanding, to acquaint him with facts, and to influence his character. We want to see the scholar grow up endowed with knowledge, with reverence, with the habit of truthfulness, industry, and obedience, and with generous aspirations after usefulness and a higher and better life. Who that has studied with affectionate insight the thoughts and the doings of children, or who remembered the experience of his own early life, would imagine that orthodoxy was the one supreme and necessary factor in elementary education?

But be this as it may; the fact remains that on no other conditions than those which I have tried to describe, can we hope to retain religious instruction in our rate-aided schools at all. In America, conscious of the enormous difficulty of reconciling conflicting sectarian interests, the question has been set at rest by limiting the instruction in the common school to secular teaching. No doubt the plan has its advantages, not the least of which is that it makes the churches and all God-fearing parents more conscious of their own responsibility and more anxious to supply by their own exertions that teaching which the day school fails to give. We in England have not yet given up the hope and belief that a compromise is possible, and that, subject to the legal right of the parent to withdraw his children from any religious lessons which he disapproves, Scriptural and unsectarian teaching should find its place in the curriculum of our schools. For my own part, as an old inspector, I believe that we could not abandon this compromise without parting with something very precious. But its maintenance demands on the part of our citizens some sacrifice which the more earnest among them will find it hard to make. It calls for forbearance, for a conciliatory spirit, and for a determination that the public schools shall not be employed to subserve the interests of any particular church or sect. For the present the verdict of the London electors, as in that of most of our great towns, is distinctly in favor of this settlement. And if the settlement is hereafter disturbed, it will not be by the purely secular party, which would dispense with religion altogether, for these are few and comparatively uninfluential; but by the zealous dogmatists, who are seeking to claim more of doctrinal precision in the school instruction, and are thus helping to make the continuance of the compromise impossible.

J. G. FITCH

LONDON, ENGLAND

VI

RELATION OF THE KINDERGARTEN TO THE PRIMARY SCHOOL

A great deal is being said to-day about the gaps which are thought to exist between successive members of our American educational system. In so far as such possible gaps depend merely upon the amount of knowledge-materials acquired in the lower school as a basis for further acquisition in the higher, or in so far as the pupil finds only that the effort he once put forth in the former falls considerably below the standard now required in the latter in independence, continuity, strength, and amount, they are not so alarming. Such leaps rather challenge the pupil's intellectual courage and mettle; they are often a fair test of the quality of earlier training. But we regard the matter in a very different light, wherever we find that certain discrepancies between successive educational institutions are due to forces in the one or the other or both, that are more or less out of harmony with the educational problem as a whole, and which, therefore, fail to preserve the desired continuity. Wherever the transition from one school to another, or from a lower institution to a next higher, breaks in prematurely upon the continuous and regular development or exercise of power, habit, and interest, there is a needless and injurious waste of energy and time.

It is a breach of this kind, I believe, which exists between the kindergarten and primary school, and which kindergartners and primary teachers are beginning to appreciate more fully than ever. A leap in the continuity of educational effort at this point appears the more serious and its removal the more urgent, when we consider that the years of the child's life corresponding to the kindergarten and primary grades are the most impressionable and receptive, and hence also the most inconstant and sensitive to change. That which he has readily acquired (as a language) *e. g.*, through the influences of one environment, may be speedily and almost wholly forgotten if that environment is exchanged for another. It is this fact—a very fortunate and significant one in the economy of the child's development and nature—that in part conditions the waste of time and effort in his education. The child passes directly from the kindergarten to the primary grades; his best interests demand a unity and continuity in the educational aim and effort of this entire period that does not yet exist. The child is always the center of all educational measures whatsoever. It is primarily this homely truism, in fact, which prompts the educator's regard for unity and continuity, and his discontent with all conditions that result in vacillating, disconnected, or inharmonious effort. Kindergarten and primary school must therefore seek a foundation for the unity of their labors *first* in the consciousness that they have a common aim in the education of the child. The verdict is practically unanimous to-day that this end is broadly ethical; moral strength of character, *i. e.*, the ability to *act* thoroughly and persistently in accordance with broad and high ideals and "forever nobler ends," is almost universally recognized as the ultimate end of education, because the ultimate end of human existence. The problem of education is as broad and vital as the struggle of mankind. And we must concede, I think, that the kindergarten has, from the first, been conscious of this end; indeed, I believe that its very vitality has been largely due to its broad grasp of the educational problem as a whole. The father of the kindergarten tells us that the "object of education is the realization of a faithful, pure, inviolate, and hence holy life."

The primary school, hampered by the demands of tradition and crude utilitarianism, has had to *grow into* a realization of the full problem. But this realization has come, and the more that the primary teacher becomes conscious of her labor's great end, the more does it mold the character of her curriculum and her instruction. In this one thought, therefore, which centers in the child's whole ethical being, kindergarten and primary school find a common motive that must throw some light upon all their educational measures.

But as we approach the subject of educational means and measures, a new question of relation presents itself. May not kindergarten and primary school conform more closely to each other in their choice of educational means and in the arrangements of their various school activities? Again we must appeal to the child for an answer to our problem. Harmony in the work of the kindergarten and primary school presupposes in the nature and activity of the child a common or like basis for the educational efforts of each stage. If the children of the two stages evince characteristically like tastes, interests, impulses, or activities, these, as the factors which must essentially condition all development, can alone be made the basis of an harmonious and continuous educational effort throughout both kindergarten and primary grades.

We are still at work upon the interesting and all-important problem of what the true nature of the child at various stages in his development is. But we are, at present, not wholly without some insight into certain phases of child-nature, that may help us to solve the problem of succession in educational work.

One of the best analyses, based on extended studies in child-psychology, has been furnished by Director Hartmann of Annaberg; the results of his analysis appeal directly to the practical experiences of the sympathetic kindergartner and primary teacher. Without entering into a detailed statement of Hartmann's analysis, we may sum it up briefly as follows: In the years of the child's life corresponding to the kindergarten age, his mental attitude is no longer one chiefly of receptivity, as in the first three years of his life; but side by side with the lively receptive activity of the senses appears the equally lively reproductive activity which is manifested in the strong impulse for expression, thus giving unmistakable evidence of the development of self-consciousness and the presence of a lively inner life. The child begins to compare, to distinguish, to imitate, and to combine; *i. e.*, thought begins. At this age then there is the substantial beginning of an inner life of thought, which finds its most charming expression in the free plays that are prompted by the childish fantasy. The child plays intelligently and with real ingenuity; he understands better how to entertain himself, is inquisitive, has a thousand fancies, asks much, and listens most willingly to those stories that permit free flights of imagination. His interpretation of natural objects is mythical; they become the symbols of its own fancies. The child desires to be entertained less than to be occupied. He shows some tendency to reflect and to be more prudent. The inconstancy of infancy gradually disappears; the child is more capable of prolonged attention to a single object. The sense of honor awakens; he is sensitive to praise and blame; conscience announces itself in the moral judgment; the beginnings of a participation in the joy and pain of others appear; the child rejoices with the joyful, weeps with the sad.

The three following years, corresponding approximately to the primary grades, Hartmann characterizes as follows: In general those characteristics so prominent in the kindergarten age are still marked factors in the first primary years, a fact which should have a very decided weight in the discussion of this problem. Free and vivid imagination is still the predominant form of thought-activity; hence the child's conception of external realities is still more or less shaded by his symbolic tendencies of thought. There is still a lack of just those stable and definite conceptions of natural things that give control over the circle of thought. As regards volitional activity, the child naturally evinces implicit trust in the authority of the teacher or parent, and usually readily subjects his will to theirs. On the other hand, he is by no means free from selfishness and egoism; he is very apt to look out for his own personal advantages to the disregard of the welfare of his comrades.

Brief and incomplete as it is, this summary still points unerringly to certain traits common to the child in both stages of development. They are (1) great receptive activity of the senses; (2) growing out of this sense-activity, the beginnings of thought, as witnessed in naïve comparison, discrimination, combination, and imitation, but still generally under the control of the fantasy; (3) strong impulses of imitation and expression, which find their most perfect realization in play (and we should note that the expression is never studied, but always the spontaneous concomitant of the inner processes); (4) a free and more or less capricious imagination, accompanied by a strong tendency to conceive of natural objects as symbols of his own fancies; (5) a natural trustfulness in the authority of teachers and parents, but an equally natural tendency to view all moral relations first merely in the light of the needs and desires of self; (6) sensitive sympathetic emotions that may easily be appealed to for higher motives; (7) great and naturally irrepressible physical activity; the *entire* physical child is an expression of the realm of thought, feeling, and desire within.

These traits, which are certainly among the most prominent features of the years of childhood now under consideration, point to as many needs in the early education of the child.

The naturally lively but superficial activity of the senses and the naïve but imperfect thought-processes that follow call for a closer acquaintance and occupation with objects of nature. The play-impulse, and the impulses of imitation, that are almost always the simultaneous or spontaneous concomitants of thought in the child, demand cultivation along natural lines, such as language and free graphic representation. The free imaginative powers call for an ideal world of characters and actions beside the real, in which the child may live in fancy—such a world, *e. g.*, as is offered by the myth and fairy or folklore tale. The natural trustfulness of the child, combined with his strong sympathies, offers the best of opportunities for directing his will; while the tendency to center all moral relations in the welfare of self calls for contact with the moral and social obligations involved in the life of the kindergarten and public school. Finally, there must be a thorough practical regard for that freedom of physical activity peculiar to childhood. These are certainly all lines of educational effort that should be common to both kindergarten and primary school; it seems to me that they offer a fair and rational basis for a closer relation between their work, one that would go far toward preserving and fostering a continuity in the development of those powers that we have already shown to be natural to the child from the third to the seventh year. The character and aim of their work are essentially the same; all legitimate differences between them will be determined chiefly by the *growth* of the child's powers.

In many respects the kindergarten has been most fortunate in its past history. Almost wholly free in its methods from the traditional shackles of centuries, it has always stood very close to the child's nature and the child's world; hence it has been able to meet more efficiently than any other institution the natural impulses, desires, and interests of infancy and childhood. There are good reasons for this: (1) It was sincere in its recognition of the play-impulse as a means of education and in the rights of the child to physical activity. (I need not stop to illustrate.) (2) Froebel's idea of the "spontaneity of activity" in the child recognizes that to the child thought and expression are practically one, simultaneous; that the presence of a live-coal thought in the child's mind drives him irresistibly to its expression in some form or other. Hence the kindergarten has never been an institution of suppression, but rather a force for the stimulation of free expression. (3) The kindergarten has always sought to create an atmosphere about the child in which conceptions of moral and social obligations could exist and thrive. (4) It has to some extent (though not sufficiently) brought the child into more familiar relations with nature in the contemplation of natural objects. (5) Through its stories it has furnished the child with an imaginative world of ideal characters and actions. (6) It has sought to foster the higher emotions and the æsthetic tastes.

While the primary school has been much less fortunate in its past history than the kindergarten, being hampered on the one hand by the demands of tradition and on the other by the demands of those who seem to have regarded it as a sort of treadmill of drudgery preliminary to life proper, through the efforts of those who have conceived of its mission in the light of the whole educational task, it has been lifted from a condition of almost complete formalism to the level of an educative institution. Those who have saved it have placed a new ideal before us—an ideal in which man and nature are brought into the child's world in the form of imaginative literature and nature-studies, in which worthy thought as well as form shall have its place.

But while it is true that many of the educational measures distinctive of the kindergarten in the past, and of primary work in its newest phases, are admirably fitted to develop the interests, powers, and activities peculiar to childhood, and while they have in so far pursued some lines of work that might have resulted in a closer relation between them, the possibility of any such relation is thwarted by the force with which each has stamped its work with a line of formalism peculiar to itself. Each has departed more or less from what the child's nature (the true center of all educational effort) demands: the kindergarten in conceding so great prominence and universality to artificial means of instruction; the primary grades in making the acquisition of formal facilities almost its sole end.

I shall devote the remainder of this paper to a plea for the deformalization of both kindergarten and primary grades.

I know that the attitude of progressive kindergartners on the question of the gifts has changed materially in recent years. They have withdrawn their reverence for certain mystic virtues with which an equally mystical philosophy had supplied the gifts, and have come to regard them simply as peculiarly fitted to certain specific ends. But this change, which has been brought about in spite of the claims still made by some prominent kindergarten authorities that the gifts embody absolute philosophic principles of education, will not stop here; it is but the beginning of a still more thorough transformation, sanctioned by the spirit of Froebel's own words. Let us inquire into the principles now supposed to underlie the use of the gifts and into the virtue still claimed for them.

At once we are brought face to face with the central thought or law of Froebel's system, "an all-controlling law," "necessarily based on all-pervading, energetic, self-conscious, and hence eternal unity." This unity is divine, is God. In Froebel's mind the possibility of education, in fact, depends upon this great principle of unity, *i. e.*, "upon the identity of the cosmic laws with the laws of mind." There is no multiplicity of educational problems, but the whole cultural task is essentially a unit of effort. Art, science, literature, are but the means of stimulating man's most perfect ethical and religious development. Educational means and methods must therefore contribute directly toward establishing in the soul of the child an appreciation of the law of universal unity. It is claimed the gifts do this. Shorn of its hyperbolic expression and of those philosophic conceptions that are still justly points of dispute among philosophers, Froebel's principle of eternal unity still appeals strongly to the educator. Certainly the whole tendency of science is toward universal law; the essence of thought is identification; the possibility of permanent, useful, advancing human institutions rests upon the community of interests. But it is claimed for the gifts that they contribute directly to the above end; this claim I dispute. It is impossible for the child mind to grasp such universal unities as the gifts, especially the three fundamental forms, are supposed to typify; the child does seek unity naturally at this age, but it seeks and finds it between individual objects, and it is impossible at first for it to grasp even typical forms in any other light than as individuals. Such appreciation of unity as Froebel conceived of is only the outcome of mature thought, and it starts naturally not in the recognition of analogues between typical forms and individuals, but with the identification of common attributes in the individual objects of nature. It is true the rational kindergarten aims only at beginning the cultivation of this power of identification; but the gifts divert the tendency of the child to compare concrete things with each other, and prompt rather the comparison of type-forms with individuals, which is unnatural. I am utterly at a loss to account for the statement of a prominent authority on Froebel, that the gifts are "the most concrete materials of growth provided by him." Some of Froebel's own words seem to me to embody a deeper truth than the gifts will ever realize. He says: "only that knowledge furthers the ripening of the mind which mounts up through its own activity and effort from the perception and contemplation of external objects to the thoughts or conceptions that dwell in things." Why, then, thrust a conventional expression of the "thoughts and conceptions that dwell in things" into the foreground first? Yet Mme. v. Marenholz Bülow speaks of "an education which, at the *start*, enables the human mind to see the connection and the originating and finally effective unity of things." In other passages of his writings, it is true, Froebel, who almost always occupied a unique position of independence, shows that he was not wholly free from that delusion of most ancient and many modern schoolmasters, viz., that the untutored mind can grasp a general or universal truth directly, if it is but expressed in a universal form.

Perhaps one of the most popular lights in which the gifts are regarded to-day is that they are essential aids in the training of sense-perception and hence ultimately in arousing scientific interest. We are reminded that "the gifts are the archetypes of nature"[1] a conception rather more daring than exact. Again we are told that "in the technical kindergarten gifts and occupations, Froebel presents what may be called a primer of the book of nature." Another writes, "these elementary forms show to the child what he cannot see for himself." But it seems to me that there is a very serious objection to this interposition of conventional forms between the child and nature or in their use as a key to nature. These forms, by virtue of their very perfection, tend to give inflexibility to the perception, wherever they are used as standards of comparison. An essential condition of the scientific attitude of mind is mobility in the materials of thought which must constantly yield to the variations of new impressions. I do not ignore the necessity of symbolism in the life of the child; but I claim that he needs no conventional key, no standard, no symbol for the interpretation of nature other than the images themselves which nature stamps upon his soul. Least of all should he be given a key that is able to symbolize but one property, form, and that but rigidly and imperfectly, while it lacks that most vital of all qualities inherent in a large part of nature, that part which is closest and appeals most forcibly to the child, *life*. Even the ideas of motion which the gifts might stimulate are far from being "archetypes" of nature's motions.

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[1] Blow, *Symbolic Education*, p. 123.

In that most admirable and inspiring work which has recently appeared in the International Education Series from the pen of Miss Blow, *Symbolic education*, the broad claims of the gifts are argued from the standpoint of the parallelism between individual and generic or racial development, and of the need of symbolism in child-life. I accept these principles, and I believe that the English language does not contain an abler exposition of the Culture Epochs than the two chapters in her book on "Childhood of the race" and the "Symbolism of childhood." But all of her illustrations and the conclusions drawn directly from them seem to me to point away from the gifts as educational means at this age, and I fail to detect the logical connection between the latter and the author's deductions. Let me quote:

"What is a symbol but a *natural* [the emphasis is mine] object, action, or event, which is analogically related to some spiritual fact or process" (p. 101).

"The error of all formal teaching is that it imposes a result without reproducing the experiences through which it was reached" (p. 116).

"The characteristic of all vital teaching is the development of ideas in the order of their origination" (p. 116).

These thoughts are essentially sound. But, I ask, does the natural symbolism of either the child or the race seek the most formal of all objects? Are the gifts properly "natural objects?" And are not the analogies which they are made to symbolize either far above the child's plane of thought, or else too subtle and broad for his interests, or false? The true symbol contains some simple but unique and poetic suggestions of analogy to the inner thought. In kindergarten literature we meet the significant thought again and again that "the too perfect toy chills the imagination, and thence the child turns from it to objects which, by remotely suggesting an ideal, heighten the activity of fantasy" (p. 85). But the same author concludes (p. 87): "It is superfluous to suggest to anyone familiar with the kindergarten how perfectly the ideal of play material is realized in the Froebel gifts"; but the very perfection of these forms and the remoteness of all possible analogies, except those of form, which they can be made to suggest, seem to me to preclude their recognition as the ideal and universal symbols of the child's play. Furthermore, the entire argument, when based upon the parallelism of individual and generic development, is guilty of *petitio principii*, for while both child and race may find in the "natural object, event," etc., the suggestion of analogy essential to the true symbol, it is quite immaterial to both whether that symbol be *also* a *type-form* or not. Indeed the perfection of the latter often interferes with its suggestiveness as a symbol. The early race could make the clouds symbolize, but not typify, the maids in swans' down; the child can make the limb of a tree symbolize, but not typify, the horse, the "upstairs" or the throne. In arguing the claims of the gifts, this distinction between mere symbol and mere type-form is essential. The fact that the gifts are type-forms, by no means necessarily recommends them as symbols.

Finally we have to consider the value of the gifts as a means of training the powers of graphic expression and of developing æsthetic taste. It is true that some of the gifts may be used to represent certain forms of art and that the possibility of combination here is endless. But again it would seem that this is beginning at the wrong end of the process. Certainly the principle of correspondence between individual and generic development, which the kindergarten has always claimed to apply, does not sanction this. If expression means anything in the child's development, it is the conveying to the outer world of sense the *individuality* of thought and power within. To be truly an expression of the individual, it must throw off conventional forms and seek those modes that give the greatest freedom. The gifts, when used so largely as a means of graphic and artistic expression, constantly force the child's representations into channels not his own, that do not express his own conceptions, and that even defraud him of his rights to individuality in error. This approaches dangerously near to the training of a "Schablonenmensch," as Froebel himself tersely put it in his own mother tongue. The representation of a rooster or a steam engine constructed in miniature out of triangles, loses little of the triangularity of its constituent parts. It is neither a counterpart of the child's mental image nor his own expression of that image. Such work, so prominent in the kindergarten, is questionable art and still more questionable means of æsthetic development. The child needs first a means of expression that will respond easily and rapidly to both his physical and mental individuality and which shall accord more perfectly with one of Froebel's soundest principles, the spontaneity of the child's activity. Such means, it seems to me, are furnished better in sand and clay molding, or in rough sketching. Spontaneity of activity is certainly not fostered by paper folding, or plaiting, or drawing or sewing to patterns. Again, the beauty of these conventional forms lies less in their perfection of form than in their coloring and their use in decoration. Take away these, and much of their charm is lost; we cannot therefore concede to them, as the purely conventional forms, anything like universality in the development of a broad æsthetic taste. Goethe has shown us, in his own experiences, that a true appreciation of art only comes by a close study of natural objects, with a view to their graphic reproduction.

In view of what has been said, it would seem that, instead of their present position of prominence, the gifts should at least occupy one of very subordinate and secondary importance in the child's play and efforts at self-expression.

But what becomes of the child when he leaves the kindergarten and enters the primary school? This sphere of educational work has recently been undergoing a process of transformation, not yet complete, which bids fair to revolutionize much of its work. New ideals stand before us; their *raison d'être* depends largely upon a closer sympathy with child-nature. But they have not yet taken possession of the schools at large; nor have the principles upon which they rest yet received full recognition. A glance at the history of the primary school, especially with regard to the first grade and its methods, gives one decidedly the impression of a close contest for the production of the best readers and the most perfect writers within a given time. The acquisition of formal facilities has been, and still is, too nearly the sole end of the primary grades. For many years little that is characteristic of the child's world ever entered with him into the school; and when in a few instances it did creep in, for some time it found itself in strange, inharmonious, and formal company. But I wish to take a stand in regard to the first grade that looks forward to more than a mere subordination of drill in reading and writing to thought. It would seem that a large number of experiences points to the fact that on the one hand the child does not at this age grasp the arbitrary symbols of reading as readily as later; on the other, that the acquisition of facility in writing at this age is a violation of the child's physical being. The latter belongs to a class of physical activities that I shall discuss briefly in conclusion. The former, reading, has long been a favorite theme in discussing the difficulties of the first grade, and ingenuity has fairly surpassed itself in its development of methods. Do what we will, we cannot escape the fact that some formal work is involved in teaching reading. At best, I believe we can only utilize as wisely as may be that age in which the child grasps such arbitrary symbols most readily.

Certain experiences point to at least a year later. In the training school of the pedagogical university-seminary at Jena, this idea is now regularly carried out and the results show that by the tenth year the child has lost nothing in the power to read, but gained much elsewhere. I formerly had opportunity to observe a good many foreign-born children, who were brought to America about the age of six, and who for various reasons did not enter school until seven or eight. If they possessed average ability, despite the drawbacks of a strange tongue, they were always comparatively quicker in mastering printed symbols, and in a year or two were beside those of their own age. If the same thing can be accomplished at a somewhat later age, in less time and with less formal drill, why do we harass our children and selves earlier?

In general, I believe that the acquisition of formal facilities, especially in the first grade, must at least be still further subordinated to those lines of work that deal with the child's natural sphere of thought and that call into more efficient activity his natural powers. When this has been done, primary teachers will have less cause to feel the discrepancy between their work and that of the kindergarten.

In conclusion, I wish to call attention to one line of work which kindergarten and primary school in recent years have pursued in common. I refer to those exercises requiring minute motor activity, such as plaiting, sewing, drawing to patterns, etc., which have constituted prominent occupations for the child. In the light of certain data which child-study has revealed concerning the physical growth and motor powers of the child between the ages of three and eight, these occupations are undoubtedly unsafe. During these years the child's physical activity and his power of motor control involve chiefly the body as a whole and the movements of the larger members. The whole arm is controlled more accurately and easily, and hence with much less expenditure of nervous force in proportion, for instance, than merely the forearm, hand, or fingers. The fingers, especially, require a delicacy of control and a minuteness of movement, either in writing or in the occupations just mentioned, that are far beyond the natural power of the child at this age; hence the attempt to perform these activities is apt to result in an exhausting and injurious expenditure of nervous force. The slow diffusion of nerve energy and control, during the kindergarten and primary grade ages, also demands that there be a gradual rather than an abrupt approach to the exercise of such occupations.

My whole thought has been that in a far greater subordination of form to thought, in the removal of the phases of formalism peculiar to each, and in giving greater prominence and genuineness to those healthy means of education that call into activity all the child's natural physical and spiritual powers, kindergarten and primary school will be able to realize greater harmony in their work.

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NORMAL, ILL.

VII

DISCUSSIONS

HIGHER EDUCATION OF WOMEN IN THE SOUTH

My paper on the above subject falls, in the October number of the EDUCATIONAL REVIEW[1], under the condemnation of Professor Charles Forster Smith for, first, "not trying to get at the facts as they are in 1894," and, secondly, for "contenting itself with quoting from Klemm's Introduction to Helene Lange's *Education of women in Europe*."

I think I can show these strictures to be a fresh illustration of that Homeric nodding which will go on despite the animadversions of critical centuries. My paper was written in 1892 and published in 1894; the conditions of women's education in the South did not in the meantime alter to the extent of justifying any considerable change in its statistics; and the facts that, according to Professor Smith, should have been included in these statistics, must have been given to the public several weeks after the paper was printed, since this appeared in the May number of the REVIEW and the catalogues with the "facts" did not come out till June. Nothing then save the gift of prophecy could have put the "facts of 1894" into my possession, and the professor doubtless knows that it is the gift of tongues and not the gift of prophecy which is granted us women. I was dealing with the facts in hand, and these permitted no rose-colored previsions.

The second point in the indictment, that I content myself with quoting Klemm's Introduction to Helene Lange's *Education of women in Europe*, comes somewhat oddly from so dear a lover of ample authorities and substantiated statement as Professor Smith seems to be. Had he been more exact in his quotations, he would have credited me with statistics from catalogues of representative schools in the twelve Southern States, and also from the report of the United States Commissioner of Education for 1888–89. This report seemed to me somewhat out of date, but as it was the only one sent me, I concluded it embodied the latest printed results. If Professor Smith will do me the courtesy to glance, between nods, at my article on pp. 473–74 he will find the overlooked statistics; and I am sure I may trust his knowledge of the situation, and his interest in the question under discussion, to find between the lines of tabulation that kind of evidence for the truth of my position that goes nearer the sources of things than mere figures can.

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[1] VIII: 287

That so earnest, able, and representative an educator as Professor Smith should think it worth while to put the hitherto prevailing illiberality of the educational powers that be, toward woman's education in the attitude of apology, is a hopeful augury—an ambrosial nod from Jupiter Tonans, which we gratefully accept as an offset to the Homeric nodding. Time was, and not so long ago, when even a concession so slight would have been considered an innovation as menacing as radical—I say "time was," though the recently announced decision of the University of Virginia rather discounts my use of the past tense instead of the present, notwithstanding the fact that *six* out of her twenty-six professors favor the admission of women to her halls! When such small and grudging gifts must be used to prove the case of progressive liberality toward woman's higher education, we can but feel that it is still far from its millennium; nevertheless the fact remains, stated by Dr. Smith, that "the reform is really going on faster than would seem from Miss Woodward's article," but the fact also remains that the increase in momentum post-dates the writing of her article; then the ball was at the top of the hill; now, it is—somewhere on the slope, thanks to the *patres conscripti* of the University of Virginia—we count the least gifts of the gods—and the facts that justify the somewhat better showings of Professor Smith's statistics.

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METHODS OF CHOOSING SCHOOL BOARDS AND SCHOOL SUPERINTENDENTS IN NEW YORK

The following tabular statements showing the method by which school superintendents and school boards are chosen in the cities and towns of the State of New York will be particularly valuable for reference in the course of the discussion now pending in various State legislatures. It has been prepared by James Russell Parsons, Jr., director of the examination department of the University of the State of New York.

	SUPERINTENDENT OF EDUCATION	BOARD OF EDUCATION
Albany	Appointed by board	Seven members appointed by mayor for a term of seven years each
Amsterdam	One in each district, appointed by board of district	Elected, one board in each district
Auburn	Elected by board to hold office during pleasure of board (Laws of 1875, ch. 577)	Nine members elected at special election (Laws of 1875)
Binghamton	Appointed by board to hold office during pleasure of board (Act of 1880)	School commissioners elected in the various wards, together with the mayor (Act of 1880)
Brooklyn	Elected by board (Laws of 1873, ch. 420)	Appointed by mayor (Laws of 1880, ch. 377)
Buffalo	Elected by general ticket (Laws of 1870, ch. 519)	Board of examiners appointed by mayor (Laws of 1891, ch. 105)
Cohoes	President of board, appointed by ballot at joint meeting of common council and board of education, to hold office two years (Laws of 1869, ch. 912)	President of board and school commissioners elected in the various wards (Laws of 1869, ch. 912)
Corning	Appointed by board	Six members, elected (Laws of 1868)
Dunkirk	Appointed by board	Six members, elected (Laws of 1883, ch. 163)
Elmira	Appointed by board	Five commissioners, elected, one in each commissioner district, and two commissioners appointed by common council (Laws of 1877, ch. 50)
Gloversville	Appointed by board (Laws of 1890, ch. 55)	Elected for term of three years each (Laws of 1890, ch. 55)
Hornellsville	Appointed by board	Five members elected for term of five years each (Added to laws of 1873, ch. 386, by laws of 1888, ch. 294)
Hudson	Appointed by board (Laws of 1881)	Five members appointed by common council for term of five years each (Laws of 1881, ch. 55)
Ithaca	Appointed by board (Laws of 1874, ch. 125)	Twelve members elected for term of three years each (Laws of 1874, ch. 125, as amended by Laws of 1877, ch. 46)
Jamestown	Appointed by board for term of three years unless discharged sooner by said board (Laws of 1887, ch. 279)	Elected on the day succeeding annual school meeting (Laws of 1887, ch. 279)

	SUPERINTENDENT OF EDUCATION	BOARD OF EDUCATION
Kingston	Appointed by board	Four trustees of primary school districts and six trustees of "Kingston school district." Elected for term of three years each (Laws of 1863, ch. 300, as amended by ch. 40, Laws of 1864)
Lockport	Appointed by board (Laws of 1850, ch. 77)	Seven trustees elected, one in each of the seven primary districts and five trustees of Union district (Laws of 1873, ch. 234)
Long Island City	Appointed by board (Laws of 1871, ch. 461)	Appointed by mayor, one from each ward (Laws of 1871, ch. 461)
Middletown	Appointed by board (Laws of 1867, ch. 431, as amended by laws of 1870, ch. 368)	Nine members elected (Laws of 1867, ch. 431)
Mt. Vernon	Appointed by board (Laws of 1894, ch. 10)	Elected for term of four years (Laws of 1894, ch. 10)
Newburgh	Appointed by board	Eight members elected for term of four years each (Laws of 1865, ch. 78, amended by Laws of 1873, ch. 27)
New York	Appointed by board (Laws of 1851, ch. 386)	Twenty-one commissioners appointed by mayor (Laws of 1873, ch. 112)
Niagara Falls	Appointed by board (Laws of 1892, ch. 143)	Nine members appointed by mayor, appointment to be confirmed by common council (Laws of 1892, ch. 143)
Ogdensburg	Elected by board (Laws of 1857, ch. 382)	Nine members elected for term of three years (Laws of 1857, ch. 382)
Olean	Appointed by board	
Oswego	Appointed by board	Six members elected for term of three years each (Laws of 1879, ch. 46)
Poughkeepsie	Appointed by board (Laws of 1883, ch. 523)	Four members elected for term of three years each (Laws of 1883, ch. 523)
Rochester	Appointed by board for term of two years (Laws of 1882, ch. 120)	Commissioners of common schools elected in the various wards (Laws of 1880, ch. 14)
Rome	Appointed by board (Laws of 1885, ch. 352)	Elected for term of three years each (Laws of 1871, ch. 49)
Schenectady	Not mentioned in statute	Commissioners elected at special election for term of two years each (Laws of 1862, ch. 385)
Syracuse	Appointed by board	Commissioners of common schools elected for term of two years each (Laws of 1885, ch. 26)

	SUPERINTENDENT OF EDUCATION	BOARD OF EDUCATION
Troy	Appointed by board of commissioners (Laws of 1881, ch. 110)	"Board of school commissioners." Commissioners elected for term of three years each (Laws of 1880, ch. 32)
Utica	Appointed by board of commissioners to hold office during pleasure of board (Laws of 1873, ch. 666)	"Board of school commissioners." Commissioners elected for one term of three years each (Laws of 1842, ch. 137)
Watertown	Appointed by board	Elected at special election for term of three years each (Laws of 1865, ch. 520)
Yonkers	Clerk of the board appointed by board (Laws of 1881, ch. 397)	Fifteen members appointed by the mayor for term of five years each (Laws of 1881, ch. 397)

VIII

REVIEWS

Herbart and the Herbartians—By CHARLES DE GARMO, Ph. D., President of Swarthmore College, Pennsylvania. (In the *Great Educators Series*) New York: Charles Scribner's Sons, 1895. 268 p. Price $1.00

Competent judges are not likely to question that the most powerful stimulus which is now acting upon American educational thought bears the stamp of Herbart. While this is one of those numerous propositions that do not admit of positive proof, and that must stand at last as matters of judgment, still something approaching such proof can in this instance be adduced. Reference is made particularly to the recent translations of Herbartian works that have been published and circulated, such as Herbart's *Psychology* and *Science of education*, Lange's *Apperception*, Rein's *Outlines*, and Ufer's *Introduction*, but also, in a minor degree, to original works,—books, articles, and pamphlets—that have appeared from time to time. It will not be claimed that a list of educational publications equal in number, to say nothing of quality, appearing within the same time, or double the time, could be made up that would represent any other definite influence or school of thought.

The publications just named or referred to had given the pedagogical scholar who is unacquainted with German originals, an opportunity to inform well himself in respect to the Herbartian authors, literature, and doctrines, if in a somewhat laborious and fragmentary way; but there was urgent need of some single work, at once historical and critical, analytical and synthetic, that should serve as a conspectus of the whole movement, comprehensive, just, luminous. The teachers and pedagogical students of the country are now indebted to Dr. De Garmo, who is not only one of our leading educationists, but also our leading Herbartian, for such a work.

The author declares his purpose to be "to give a bird's-eye view of Herbart and his doctrines of education, both as presented by himself and as developed by his successors." He avows a purpose to refrain from "confusing refinements of doctrine and to confine himself strictly to essentials." Part I is devoted to the master, and deals (1) with what Pestalozzi left for him to do; (2) his life and works; (3) his psychology; (4) his ethics; (5) the doctrine of interest; (6) instruction, and (7) school discipline. Part II is occupied with the extension and application of the master's educational ideas in Germany, comprising the work of Ziller, Stoy, Rein, Lange, and Frick. Part III deals with Herbartian ideas in America. The book presents to the reviewer two sides, either one or both of which may properly claim his attention. One side is the Herbartian ideas considered as a body of educational doctrine; the other, the writer's handling of these ideas. For the most part I shall confine my remarks to the second of the two phases.

My first observation is that the field is a wide one to cover in a 12mo volume of only 268 pages; but it must be said that the author's view is so full and clear, and his grasp so firm, that he does not, on the one hand, leave the central ideas bare and unintelligible abstractions, or, on the other, allow details to multiply on his hands until they break over the barriers and bury the reader in confusion. In happy conception of plan, and skillful execution of it, the book leaves little, if anything, that is material, to be desired.

The reader who first takes up the volume will naturally be curious to see how it deals with those features of Herbart's system of thought that lie most open to attack. These features are very wisely waived aside. We are told, for example, that it matters little whether "the supposed universe of monads" is a "sober reality or a phantasm conjured up by speculation." Again, the application of "mathematical calculus to mental movement and equilibrium," or "the quantitative method of psychological study," does not concern us, since the Herbartian movement took its rise from experience, "which has been brought under the general term *apperception.*" Once more, "it is by no means necessary to accept his [Herbart's] metaphysical presuppositions as to the nature and original equipment of the soul." And finally, "it is a matter of indifference whether we accept his notions or Kant's as to our original mental constitution, for the teacher has no power to create or to destroy these original powers; he can merely work with what is given." Refusing from the first to hold a brief for the author of the system, Dr. De Garmo keeps his eye steadily on educational applications and educational outcome.

Here I may remark that he is now happier in adjusting Kant and Herbart than he was in reconciling the "germ" and the "architectural" theories of education some years ago in his *Essentials of method.* In effect the two problems are the same, and so are the two solutions, except that the new one is stated in more guarded language. We were formerly told that "*how* knowledge shall be acquired," etc., is predetermined as absolutely as "the form of the plant is involved in the seed from which it springs," but that, "*what* this knowledge shall be is not predetermined." The first statement is wholly true, and the second one largely so; but I am pleased to see that President De Garmo has not again assured us that "a child left at birth upon an uninhabited island, and nourished by beasts, would become a beast, at least so far as the content of knowledge is concerned." If this were true, then man is nothing in himself, but is the mere creature of environment. Then, to borrow the writer's figure, no essential difference would exist between the mind and a *camera.* A human infant nursing a she-wolf perhaps sees all that the cubs see in a jungle, but certainly somewhat more. Were it not so, then indeed it would be hard to see that the human mind has original power of activity in any sense that the description would not apply to the *camera*, and the difference between the new organic psychology and the old mechanical psychology falls to the ground. It is well for the teacher, like the Apostle to the Gentiles, to magnify his office; one of the strong points of the Herbartian system is that it tends to such magnification; but the fact cannot be concealed, nevertheless, that this tendency has its dangers, which are by no means slight. The truth is, the teacher is no more an architect than the infant mind is a seed-bed.

I cannot think that the handling of Wundt's views on apperception is altogether satisfactory. As they are here explained, they are at variance with the view which our author states thus happily :

"Every simple or complex perception (or sensation) which enters consciousness through the gates of the senses, acts as a stimulus upon the ideas possessed by the mind. It repels everything contrary to it that may be in consciousness, and attracts or recalls all similar things, which now rise with all their connections. This complex perception (or sensation) invades several other groups or series simultaneously, and thus induces new conditions of fusion or arrest. While thus it causes a lively movement of ideas, it may be compared to a light casting its rays all around it. The stimulated ,mass of ideas raised simultaneously may be likened to an arched vault extending in all upward directions from the center. As long as this arching continues the central perception has, by virtue of its stimulating power, the controlling influence in consciousness," etc. (pp. 34–35.)

This view postulates the presence in the mind of some knowledge before the process called apperception can begin—knowledge the existence of which apperception itself does not explain. But Wundt makes the will "a necessary element in every sensation, so that if asked, What is sensation apart from all apperception? we should be compelled to answer, Nothing at all, for consciousness, since without apperception we should never have a sensation" (p. 38). Then without apperception we should never have a perception, or an idea. An attempt is indeed made to meet the difficulty by distinguishing between the *initial* form of apperception and the *cognitive* form. Thus we are told that the initial form "is such because it involves no previous knowledge." But this is beside the mark. It is subversive of the accepted sense of apperception. If we admit it, then Dr. De Garmo's "arched vault extending in all upward directions from the center" falls into ruins. If apperception involves assimilation, then it does not include that modicum of knowledge which exists before assimilation begins. Wundt's view distinctly turns the edge of the doctrine. Practically, the point may not be a very important one, but it must be faced in the interest of clear thinking.

At first view Part III may not seem to promise a wide field of interest. I assure the reader, however, that, upon the whole, it does not suffer from comparison with the others. In a sense, the author here appears at his best. In the chapters entitled "A new era in education," and "Proposed bases for the co-ordination of studies," he drops narration, exposition, and adjustment, and speaks his own free, individual thought. I am pleased to observe that the second of these chapters, which is the final one of the book, is not spoiled or marred by subservience to the conception of unity, which has so often tyrannized over the system-maker, whether a Herbartian or not. To be more definite, Dr. De Garmo, so far from feeling bound, like the traditional Herbartian, to find a single "core" of interest in the whole group of school studies finds three such cores—the humanistic, the scientific, and the economic. Whether this selection of centers is the best one or not, interests one less for the moment than the mental habit that enables the author to make the selection.

Herbart and the Herbartians is a book that, both by reason of its opportuneness and its ability, is sure to attract the attention of practical teachers, of pedagogical students, and of writers for the educational and philosophical press. Unless I greatly mistake, it will become, in many a city, town, and country district, a local center of discussion and of thought-stimulus. In particular, it can hardly fail to excite much canvassing, and some recanvassing, of the Herbartian doctrines. Perhaps I do not transcend my sphere when I recommend to those who enter upon such canvassing or recanvassing three points as especially worthy to receive their earnest attention. One is the amount of ethical culture and training that can be obtained from the non-ethical studies. The second is the extent and limitations of the doctrine of interest. Here the door stands open for the entrance of diverse evils, provided teachers are left merely to accept *present* interest as their guide, regardless of efforts to *generate* new interests. But, thirdly, to keep the doctrine of concentration from degenerating into the most pitiful of all formalisms is perhaps the most urgent duty. At this point, it is none too soon to sound a note of warning. The study of Whittier's poems should, as a matter of course, be accompanied by the study of his life, and, to some extent, of his times; the contemporaneous language work and composition should also be keyed to the Whittier note, and the grammar work may be so keyed; but to make the parallel arithmetical examples out of the chronology of the poet's life, in the name of "concentration," is more than foolish, it is positively silly. It reminds one of the "blending system," once in vogue in certain National schools of England, as a means of teaching religion and morals. For example: "The children of Israel were sadly given to idolatry, notwithstanding all they knew of God. Moses was obliged to have three thousand men put to death for this grievous sin. What digits would you use to express this number?" "Of Jacob's four wives, Leah had six sons, Rachael had two, Hillah had two, and Zillah had also two. How many sons had Jacob?" I am far from intending any disparagement of the doctrines of interest and concentration. I am merely seeking to prevent their abuse. They will not suffer in the hands of Dr. De Garmo, but I have not equal confidence in all persons who are now using the terms so glibly.

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Minerva: Jahrbuch der gelehrten Welt, IV Jahrgang, 1894–95. Strassburg: Karl J. Trübner, 1894. 930 p. 7 marks.

This book is printed and bound in the same handsome style as the three preceding volumes, but still continues to grow in size, having seventy pages more this year than last. The editors do honor to English educators by choosing for their frontispiece the portrait of Lord Kelvin (better known as Sir William Thomson), president of the Royal Society and professor of natural history in the University of Glasgow. In the endeavor to make the book as complete as possible, a large number of universities, colleges, institutes, libraries, museums, and observatories has been added every year; and, although from the first it has been comparatively complete for Germany, Hungary, and Switzerland, yet quite a number of important libraries and archives in these countries are now noticed for the first time. America receives more attention than heretofore, and numerous institutions from other lands are also added.

The whole is divided into four parts: (1) a classification of institutions according to their geographical location; (2) an alphabetical list of the institutions, with a description of each; (3) a statistical list, showing the number of students connected with the various institutions; (4) an alphabetical list of officers and professors, with a reference to the place where the institution with which each is connected is described. From the first part it is seen that, in the United States, there are described 29 so-called universities (Amherst, for instance, is among them), 7 colleges, 2 technical schools, 7 professional schools, 66 libraries (in addition to those connected with universities), 23 observatories, 6 learned societies, 5 museums, and 16 institutes connected with the government at Washington.

The "universities" mentioned for the first time are: Boston, Cincinnati, Colgate, Nebraska, Ohio, Wesleyan, and Western

Reserve. The institutions of Europe are treated more fully, while those of other continents are by no means neglected. Room for the additions is gained from the added pages and by omitting those portions of descriptions that have not been changed since the preceding volumes appeared. In each case, where such omission is made, reference is made to the proper place in one of the previous volumes. In the list of institutions, a *résumé* of the history of each is given, the regulations regarding membership, some outline of the plan of organization, and a statement showing the amount of endowment, income, and expenses. If it is a university or college, there are given a list of the faculties, the requirements for degrees, and a description of the libraries, laboratories, and museums belonging to it. If it is a museum, library, or archive, the names of the officers are given and a general description of the works contained.

From the statistical table it is interesting to compare the numbers in some of the largest universities in the world. Paris is the largest, having 10,643 students; Berlin is next, with 8343; then Madrid, with 5867. The second German university in size is Munich, with 3408; then Leipsic, with 3067. Some American universities have attendance as follows: Harvard, 3156; Michigan, 2659; Yale, 2202; Cornell, 1801; Wisconsin, 1207; Chicago, 878. These figures are for the winter term of 1893–94.

The book really forms an accurate, reliable, and annually revised encyclopedia *der gelehrten Welt*. Many more American colleges might be added to the list, and they doubtless would be, if proper data were sent to the publisher.

R. W. MOORE

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Chronological outlines of American literature—By SELDEN L. WHITCOMB, A. M. With an Introduction by Brander Matthews. New York and London: Macmillan & Co., 1894, 286 p. Price $1.00.

Mr. Whitcomb seems to me to have produced a very useful manual, and to have deserved the gratitude Professor Brander Matthews bespeaks "for his immeasurable labor." The book is of course modeled upon Mr. Ryland's well-known handbook of similar title, but is in some respects an improvement upon its prototype. The historical references, as well as those to foreign literatures and the kindred arts, have been largely increased in number and made with considerable care. In scope, too, Mr. Whitcomb's book is the wider; and as he does not pretend to set up for a critic, few persons that consult his pages will object to his inclusiveness, least of all the special students, who will recognize the thorough-going character of the compiler's researches—*e. g.*, in the neglected field of ante-bellum fiction.

In a work made up of dates and names, there must be some mistakes, typographical and otherwise, but after two careful readings I have failed to discover any worthy of note. Sins of omission cannot well be counted, for as Professor Matthews observes, the book does not pretend to be a bibliography, and we generally count as sins of omission what are after all mere failures to recognize our own favorite fads. I was reminded of this fact in an amusing manner when I was disappointed at finding in the column devoted to foreign literatures only two of Balzac's novels deemed worthy of mention. Mr. Whitcomb was not writing for the admirers of the great French master, but for the mass of American students and readers. For them he has done yeoman and praiseworthy service.

Although the thoroughness of the work is apparent on every page, it is most conspicuous in the treatment of the literature of the Colonies, which is precisely that portion of our literary history that we are most prone to slight. The early literary efforts of the South, too, which are usually slurred over, receive fuller treatment at Mr. Whitcomb's hands. He has also paid attention to periodical literature; but in this connection I could wish that he had mentioned the old *Southern Review* of Charleston and had given the dates of suspension of publication. I think, too, that an index to the less important authors, not included in Part II, would have facilitated the use of the manual. But this is to look a gift horse in the mouth, for to wish that Mr. Whitcomb had added considerably to a labor that few men would have had the courage to undertake, smacks of an ingratitude I am far from feeling.

W. P. TRENT

UNIVERSITY OF THE SOUTH

A History of the United States—By ALLEN C. THOMAS, A. M., Professor of History in Haverford College. Boston: D. C. Heath & Co., 1894. 532 p. $1.25.

American history does not lend itself easily to the limits of a school text-book—it includes three or four successive periods with as many changes in conditions and ideals; the national history in itself contains a great variety of incidents, and the original colonies, and many of the States, must have special mention; the threads are numerous and intertwisted; and nobody can treat the period since 1830 without coming upon questions over which there are still bitter differences of point of view. The excess of matter and the greater fullness of the materials on the earlier period makes it difficult to preserve correct proportions. To this category may be added the puzzling questions of form, of the nature and degree of illustration, and of the historical geography.

To this task Professor Thomas has brought an excellent knowledge of the subject, a good, speaking style, and a singularly clear judgment. It is not a perfect book, but it is, perhaps, better designed and worked out than its predecessors. The book which it most resembles is Johnson's, as, in that sanest and broadest of text-books, the military history is brought into due subordination, and social and economic problems have their proper places, and colonial history occupies only about a third of the text.

In form the book is pleasing—there is a large type and an unusual amount of reading matter in proportion to the total number of pages. The pictures are chiefly excellent portraits. While the book lacks summaries and suggestive questions, it has tolerable maps; no author of a school text-book in this subject, except Johnson, has taken such pains with his maps, or made so few errors. One wishes that they were more accurate—but that is the invariable wish in examining such books. The treatment of public questions is broad, interesting, and impartial, without losing the American spirit. It is an honest, intelligent, and well-molded book.

One merit the book has which is so unusual as to be worthy of special mention, and which adapts it for teaching in the newer methods of school history. Each of the twenty chapters is preceded by a well-chosen bibliography, intended to lead the pupils to other authorities on the same period. As a book to be taught, to be studied, to lead to other reading, and to keep for reference, it deserves much praise.

ALBERT BUSHNELL HART

HARVARD UNIVERSITY

The First Latin Book—By WILLIAM C. COLLAR, A. M., and M. GRANT DANIELL, A. M. Boston: Ginn & Co., 1894. 286 p. $1.10.

First Latin Readings—By ROBERT ARROWSMITH, Ph. D., and GEORGE M. WHICHER, M. A. New York: American Book Company, 1894. 304 p. $1.20.

Latin Phrase Book—By C. MEISSNER. Translated by H. W. ANDEN, M. A. London and New York: Macmillan & Co., 1894. 316 p. $1.10.

The editors of *The first Latin book* have been long known through their excellent *Beginners' Latin book*. They wish it to be understood that their new book is not a revision of the former, nor intended to supersede that work; yet, as some schools may not be able to use so extended an introductory book as the *Beginners'*, they have planned a work which calls for about a third less time for its completion. "The reduction has been made almost wholly by shortening the exercises for translation, particularly those to be turned into Latin." The new book is printed on thinner paper, but contains ten pages more than the older one; it has seventy-two lessons against sixty-seven. Still it has a less number of exercises, and hence can be completed more quickly. The important changes in method are the earlier treatment of the pronouns, the subjunctive, the infinitive, and the participle, and the earlier introduction of reading lessons. There are also numerous changes in detail in which the editors seem to have profited by recent discussion. There are thirty-three illustrations, and the *colloquia*, so attractive a feature of the older book, are retained. The editors still adhere to their principle of producing a book which shall be a gate to the language rather than to an author, and so have refused to follow the example of others in keeping the vocabularies "down to the point of meagerness." Here it seems to me is the main question as to the *raison d'être* of first Latin books. The editors, with pardonable pride, state that their first book is being sold at the rate of 45,000 copies a year; yet, in the face of so tremendous an argument, I think that a beginners' book is an evil; and being an evil, the less there is of it the better. Hence I have viewed with pleasure the steadily diminishing bulk of such books. A student should be introduced to the author just as early as possible, and the time is coming when the beginner in September will reach his author in January. In many high schools of the West and South the entire preparatory Latin course must be compressed into three, sometimes into two, years; and a leisurely method, which will be satisfactory for a curriculum continuing from four to seven years, is out of the question when there is so much less time at command. It is surely better that hurried students should reach their Cicero and Vergil rather than miss them altogether, even if their preparation for reading Latin may fall short of the ideal. But until someone can write a book of 176 instead of 276 pages, I commend this work of Messrs. Collar and Daniell as careful and scholarly and equal to the best.

After looking over Messrs. Arrowsmith and Whicher's *First Latin Readings*, one's first thought is that our grandfathers were right after all with their Latin Readers. Now that the Committee of Ten have told us that the preparatory Latin course is too meager, and that Cæsar is too hard for a first author, we wonder that we did not see it before—all of us, I mean; for some have been heretical for years. The book begins with 28 pages of Eutropius, then follow 32 pages of Nepos, 46 of Cæsar, 20½ of Gellius, 8½ of Cicero, and 13 of Livy. The object of the work, one may suppose, is to displace Cæsar. Most colleges require four books of Cæsar, equivalent to about 86 pages of Latin. In this reader are 46 pages of Cæsar,—to be sure the easiest parts of the narrative,—yet more than half as much Cæsar as the colleges demand; then, in addition, is the varied assortment of authors, the change in subject-matter, the careful gradation in difficulty of reading, and at the end 150 pages of Latin read instead of 86; here is a great gain in every way. At the foot of each page is a special topic in grammar for study, the cases where the grammatical matter is applicable being marked by a reference figure. In this way a complete theory of syntax is gained. How much better than a laborious *a priori* memorizing out of a grammar or an old-fashioned beginner's book! There are numerous maps and pictures; perhaps the smoke from the altar in the frontispiece picture might be happily lessened in the next edition. The quantities are marked throughout the book, and the text is broken with a running introduction. The notes are simple, giving much translation, and in the doubtful authors variations from classic usage are pointed out. There are short biographies of the authors, and also brief bibliographies. In the vocabularies I doubt the wisdom of placing the compound verbs with the simple. There are occasional mistakes in the grammatical references, *e. g.*, reference 1 on page 100.

The book deserves a hearty welcome from Latin teachers, and will doubtless receive it.

Meissner's *Latin phrase book* has passed through six editions in Germany and three in France. In seventeen chapters, covering such subjects as the world and nature, arts and sciences, commerce and agriculture, each chapter being carefully subdivided, a list of Latin phrases is given, accompanied by English translation. For instance, education is a subdivision of Chapter VII, arts and sciences, and we learn that *ludus* is an elementary school; *schola*, a school for higher education; *scholam frequentare*, "to go to school." Then, again, under the sub-rubric "Commerce in general," *negotii bene gerentes* means "good men of business"; *nummus iactatur*, "the bank-rate varies." At the end of the book is an alphabetical index in Latin. It is difficult to see how such a book could be used in American schools. It could hardly be studied through in course, and is not well arranged for ready reference. Its chief value, apparently, is to serve as an aid in Latin composition; and in Europe, where original Latin essays are required in gymnasiums and lycées, such a work has its value. In this country the tendency seems fixed toward imitation of the phraseology of an author previously read in the Latin, and so there is no special endeavor made to put a student in possession of so wide a phraseology of Latin in general. But any Latin teacher can read the book through profitably, and in some college Latin composition courses the work may be found serviceable.

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NOTES ON NEW BOOKS

The mention of new books in this place does not preclude extended critical notice hereafter.

Steel's *English grammar and analysis* (New York: Longmans, Green & Co., 300 p. $1.20) is a text-book in which "the language itself has been made to furnish its facts in such a way as to assist in the classification of them, and in the establishment of principles." All other writers on grammar would probably make the same claim. Fully one hundred pages are devoted to the derivation of words and a history of the English language. The exercises are thrown into the concluding pages—a fact which will not in itself commend the book to American teachers.——Dr. George Bruce Halsted, whose services to the cause of the new geometry are well known, has translated from the Russian an address by Professor Vasilies, delivered at the University of Kasan, in October, 1893, on *Nicolai Ivanovich Lobachevsky* (Austin, Tex.: The Neomon, 1894, 40 p.), from which exact information concerning the man and his remarkable mathematical discoveries can be obtained.——*The Teacher's mentor* (Syracuse, N. Y.: C. W. Bardeen, 1894, 417 p. 50 cents), is the name of the ninth issue of the Standard Teachers' Library, and contains four first-class and practical essays: Buckham's "First steps in teaching," Huntington's "Unconscious tuition," and Fitch's "Art of questioning," and "Art of securing attention." All are too well and too favorably known to require further comment.——Professor Emerton has followed up his *Introduction to the study of the Middle Ages* with a capital volume on *Mediæval Europe* (Boston: Ginn & Co., 1894, 607 p. $1.65), in which the period from the death of Charlemagne to the latter part of the thirteenth century is covered. The book will be welcome in all colleges where history is properly and generously taught.——Professor Platner's *Selections from the letters of the younger Pliny* (Boston: Leach, Shewell & Sanborn, 1894, 92 p. 25 cents) puts a considerable amount of charming Latin reading within the reach of large numbers of students.——In his *Progress in language* (New York: Macmillan & Co., 1894, 370 p. $1.90) the Danish Professor Jespersen has written a very valuable introduction to the study of comparative philology from the standpoint of English.——The latest addition to the Students' Series of English Classics is *Selections from Washington Irving*, edited by Isaac Thomas of New Haven (Boston: Leach, Shewell & Sanborn, 1894, 383 p. 50 cents).——A well-known scholar, Dr. Paul Groth, is the author of *A Danish* and *Dano-Norwegian grammar* (Boston: D. C. Heath & Co., 1894, 153 p. $1.00).——Rev. A. J. Church adds to his deservedly popular series of stories from history and literature a new *Stories from English history*, amply illustrated (New York: Macmillan & Co., 1894, 240 p. $1.00).——Two new works on chemistry, both admirable in arrangement and scientific in method, are Schorlemmer's *Rise and development of organic chemistry* (New York: Macmillan & Co., 1894, 280 p. $1.60) and Newth's *Text-book of inorganic chemistry* (New York: Longmans, Green & Co., 1894, 667 p. $1.75).

IX

EDITORIAL

One of the chief storm-centers of educational activity at present is the State of Illinois. The University of Chicago is not only taking a commanding position before the country, but it is stimulating and helping the high schools and colleges in its neighborhood to a remarkable degree. Colonel Parker's work at the Cook County Normal School was never so well organized nor his assistants so competent and efficient as now. At Bloomington and Normal a movement of great vigor and promise is under full headway, led by Dr. George P. Brown, Principal John W. Cook, and Professors McMurry and Van Liew. At the State University Professor Krohn has thrown himself with characteristic ardor into the work of child-study, and Professor Eckoff is depended upon to lend the weight of his position and his learning to the general movement throughout the State.

The announcement by President Harper that the University of Chicago is now ready to build up a department of education, and has been at work on plans for it, has given great encouragement; for it makes it certain that another great university will be added to the list of those whose newly aroused consciences lead them to take a real, and not merely a nominal, interest in education.

* * *

The very powerful paper by Professor Van Liew, published in this issue of the REVIEW, marks the beginning of a new stage in the history of the kindergarten movement. Up to this time those educationists who appreciated the principles and spirit of the kindergarten have given it unwavering and uncritical support, because it was on trial for its life. Now, however, that it has become firmly established and will soon be a part of every well-organized elementary school, the time has come to save it from its friends.

As hitherto conducted the kindergarten has been a thing apart. It has elaborated a technique and a method peculiar to itself. This technique and this method have been narrow rather than broad, in antagonism to the principles of good elementary teaching rather in sympathy with them. A crude and fanciful psychology, and some of Froebel's very uninspired and uninspiring dogmas, have been depended upon to sustain this position. A more accurate psychology, however, and the need for a close relation between kindergarten and elementary school work, technically so-called, are forcing a reconsideration of many points in kindergarten practice. Out of this scientific and sympathetic criticism only good can come, and already the more intelligent and better trained kindergartners are giving evidence that the spirit of progress and truth is at work to correct the errors that have disfigured much of their practical teaching.

The last annual report of Superintendent Lane of Chicago contains conclusive evidence that, notwithstanding the ravings and revilings of certain newspapers specially prepared, as Mr. Charles A. Dana would say, to be read by fools, the public schools of that city are making substantial progress. The city has assumed the burden of maintaining the kindergartens formerly supported by the Froebel Kindergarten Association and the Chicago Kindergarten College, and is preparing to extend and develop the system. The cadet teachers, who in the past were supposed to be fitted for their life-work by rendering "substitute service" for the short term of five months, now receive regular instruction in the principles and methods of teaching for three hours each day during the probationary period. This amount of professional training is small when compared with what is required in many other cities, but it is a good beginning. When Chicago awakes to the necessity for thorough professional training for her teachers, she will not be content with a normal course of less than two years. School libraries have been established, and the regular curriculum has been re-enforced by a well-selected list of supplementary books which introduce the pupils to science, literature, and history. The course of study has been brought into line with the requirements of modern civilization. Manual training has been introduced into many grammar schools and is rapidly making its way. Notwithstanding the howls of the Philistines, the eye no longer says to the hand in

Chicago, "I have no need of thee." More than any other city superintendent in the country, Superintendent Lane has been called upon to resist the *civium prava jubentium ardor*. He has stood nobly for the right. He deserves the thanks of progressive teachers throughout the land.

By the death of Miss Frances Mary Buss, Head-Mistress of the North London Collegiate School, London has lost one of the pioneers of woman's education. In 1850 Miss Buss, with her mother, started a small private school in Camden Street. Afterward, at intervals, this school was assisted by grants from the Brewers' Company and the Clothworkers' Company, and thus the North London Collegiate and Camden Schools for Girls came into existence. The creation and development of these justly celebrated schools constituted the chief work and interest of Miss Buss' life, but she was actively engaged in every important movement in the English metropolis either to improve the opportunities for women's education or to elevate the profession of teaching. She was officially connected with the College of Preceptors, the Training College for Women teachers at Cambridge, and the Teachers' Guild, and took a large part in founding the Association of Head Mistresses of Public Schools. Miss Buss was actively engaged in school work for forty-four years. During this period, the English public school system was founded and developed. During this period, women for the first time became a conspicuous factor in educational work. It is to the zeal, the energy, and the good judgment of women like Miss Buss, who early recognized the necessity for professional training as a preparation for teaching, that the high position now held by women in the educational field is in large measure due.

As previously announced, the Department of Superintendence of the National Educational Association will hold its next annual meeting in Cleveland, O., on February 19–21. The programme, already partially announced in these pages, has been completed by the following additions: President Thwing of the Western Reserve University will present a paper on the teaching of political economy in schools; Professor Bryan of the University of Indiana will treat of "Child-study, systematic and unsystematic"; and Colonel Parker will show some of the applications of child-study in school work. All the indications are that the meeting will be largely attended and eminently useful.

The Legislature of the State of New York should waste no time in deciding between the two measures that are before it, dealing with the New York City school system. One of these bills is as preposterous an accumulation of "jobs" as ever got together in a single proposition. It calls for a paid school commission of five members, each to receive a salary of $8000 a year for a term of five years. The gentlemen who hope to occupy these berths are loud in their praise of this arrangement. The folly and ignorance of this proposition, however, are outdone in the retention of the local trustees with all of their power for evil and their divided responsibility. In the Twelfth Ward, for instance, with its twenty schools, five trustees—of whom no one ever heard and whom no one would know or recognize if he did hear of them—are almost the absolute masters of a patronage amounting to nearly $650,000 a year, and of the fortunes of about 60,000 children.

To do away with all this, and to substitute a simple, effective, and responsible school administration is the sole object of the bill indorsed by the Committee of Seventy. This bill, originally drawn by Mayor Gilroy's excellent commission, has been carefully examined and indorsed by the Committee of Seventy's subcommittee on public schools, by the City Club, by the Good Government clubs, by the Board of Education, and by every respectable newspaper in the city. It should be a law by March 1, and in July the reorganization that it contemplates should be effected.

EDUCATIONAL REVIEW

MARCH, 1895

I

COMMITTEE OF FIFTEEN

REPORT OF THE SUB-COMMITTEE ON THE TRAINING OF TEACHERS

This report treats of the training of elementary and secondary teachers, considering first that training which should precede teaching in elementary schools. By elementary schools are meant the primary and grammar departments of graded schools, and ungraded or rural schools.

That teachers are "born, not made," has been so fully the world's thought until the present century that a study of subjects without any study of principles or methods of teaching has been deemed quite sufficient. Modern educational thought and modern practice, in all sections where excellent schools are found, confirm the belief that there is a profound philosophy on which educational methods are based, and that careful study of this philosophy and its application under expert guidance are essential to making fit the man born to teach.

CONDITIONS FOR PROFESSIONAL TRAINING—AGE AND ATTAINMENTS

It is a widely prevalent doctrine, to which the customs of our best schools conform, that teachers of elementary schools should have a secondary or high-school education, and that teachers of high schools should have a collegiate education. Your committee believe that these are the minimum acquirements that can generally be accepted, that the scholarship, culture, and power gained by four years of study in advance of the pupils are not too much to be rightfully demanded, and that as a rule no one ought to become a teacher who has not the age and attainments presupposed in the possessor of a high-school diploma. There are differences in high schools, it is true, and a high school diploma is not a fixed standard of attainment; but in these United States it is one of the most definite and uniform standards that we possess, and varies less than college degrees vary or than elementary schools and local standards of culture vary.

It is of course implied in the foregoing remarks that the high school from which the candidate comes is known to be a reputable school, and that its diploma is proof of the completion of a good four-years' course in a creditable manner. If these conditions do not exist, careful examination is the only recourse. If this condition, high-school graduation or proof by examination of equivalent scholarship, be accepted, the questions of the age and attainment to be reached before entering upon professional study and training are already settled. But if a more definite statement be desired, then it may be said that the candidate for admission to a normal or training school should be eighteen years of age and should have studied English, mathematics, and science to the extent usually pursued in high schools, should be able to write readily, correctly, and methodically upon topics within the teacher's necessary range of thought and conversation, and should have studied, for two or more years, at least one language beside English. Skill in music and drawing is desirable, particularly ability to sketch readily and effectively.

TRAINING SCHOOLS

The training of teachers may be done in normal schools, normal classes in academies and high schools, and in city training schools. To all these the general term "training schools" will be applied. Those instructed in these schools will be called pupils while engaged in professional study, and pupil-teachers or teachers-in-training while in practice-teaching preparatory to graduation. Teachers whose work is to be observed by pupil-teachers will be called model-teachers; teachers in charge of pupil-teachers during their practice work will be called critic-teachers. In some institutions model-teachers and critic-teachers are the same persons. The studies usually pursued in academies and high schools will be termed academic, and those post-academic studies to be pursued before or during practice-teaching as a preparation therefor will be termed professional.

ACADEMIC STUDIES

Whether academic studies have any legitimate place in a normal or training school is a question much debated. It cannot be supposed that your committee can settle in a paragraph a question upon which many essays have been written, many speeches delivered, and over which much controversy has been waged.

If training schools are to be distinguished from other secondary schools they must do a work not done in other schools. So far as they teach common branches of study they are doing what other schools are doing, and have small excuse for existence; but it may be granted that methods can practically be taught only as to subjects, that the study done in professional schools may so treat of the subjects of study, not as objects to be acquired, but as objects to be presented, that their treatment shall be wholly professional.

One who is to teach a subject needs to know it as a whole made up of related and subordinate parts, and hence must study it by a method that will give this knowledge. It is not necessary to press the argument that many pupils enter normal and training schools with such slight preparation as to require instruction in academic subjects. The college with a preparatory department is, as a rule, an institution of distinctly lower grade than one without such a department. Academic work in normal schools that is of the nature of preparation for professional work, lowers the standard and perhaps the usefulness of such a school; but academic work done as a means of illustrating or enforcing professional truth has its place in a professional school as in effect a part of the professional work. Professional study differs widely from academic study. In the one, a science is studied in its relation to the studying mind; in the other, in reference to its principles and applications. The aim of one kind of study is power to apply; of the other, power to present. The tendency of the one is to bring the learner into sympathy with the natural world, of the other with the child world. How much broader becomes the teacher who takes both the academic and the professional view! He who learns that he may know and he who learns that he may teach are standing in quite different mental attitudes. One works for knowledge of subject-matter; the other that his knowledge may have due organization, that he may bring to consciousness the apperceiving ideas by means of which matter and method may be suitably conjoined.

How to study is knowledge indispensable to knowing how to teach. The method of teaching can best be illustrated by teaching. The attitude of a pupil in a training school must be that of a learner whose mental stores are expanding, who faces the great world of knowledge with the purpose to survey a portion of it. If we insist upon a sufficient preparation for admission, the question of what studies to pursue and especially the controversy between professional and academic work will be mainly settled.

PROFESSIONAL WORK

Professional training comprises two parts: (*a*) The science of teaching, and (*b*) the art of teaching.

In the *science of teaching* are included: (1) Psychology as a basis for principles and methods; (2) Methodology as a guide to instruction; (3) School economy, which adjusts the conditions of work; and (4) History of education, which gives breadth of view.

The *art of teaching* is best gained: (1) by observation of good teaching; (2) by practice-teaching under criticism.

RELATIVE TIME

The existence and importance of each of these elements in the training of teachers are generally acknowledged. Their order and proportionate treatment give rise to differences of opinion. Some would omit the practice work entirely, launching the young teacher upon independent work directly from her pupilage in theory. Others, and much the greater number, advise some preparation in the form of guided experience before the training be considered complete. These vary greatly in their estimate of the proportionate time to be given to practice during training. The answers to the question, "What proportion?" which your committee has received, range from one-sixteenth to two-thirds as the proportion of time to be given to practice. The greater number, however, advocate a division of time about equal between theory and practice.

The normal schools incline to the smallest proportion for practice-teaching, the city training-schools to the largest. It should be borne in mind, however, that city training-schools are a close continuation, usually, of high schools, and that the high-school courses give a more uniform and probably a more adequate preparation than the students entering normal schools have usually had. Their facilities for practice-teaching are much greater than normal schools can secure, and for this reason also practice is made relatively more important. As to the relative merits of city training-schools and normal schools, your committee does not desire to express an opinion; the conditions of education demand the existence of both, and both are necessities of educational advancement. It is important to add, however, that in the judgment of your committee not less than half of the time spent under training by the apprentice-teacher should be given to observation and practice, and that this practice in its conditions should be as similar as possible to the work she will later be required to do independently.

SCIENCE OF TEACHING—PSYCHOLOGY

The laws of apperception teach that one is ready to apprehend new truth most readily when he has already established a considerable and well-arranged body of ideas thereon.

Suggestion, observation, and reflection are each most fruitful when a foundation of antecedent knowledge has been provided. Hence your committee recommends that early in their course of study teachers in training assume as true the well-known facts of psychology and the essential principles of education, and make their later study and practice in the light of these principles. These principles thus become the norm of educational thought, and their truth is continually demonstrated by subsequent experience. From this time theory and practice should proceed together in mutual aid and support.

Most fundamental and important of the professional studies which ought to be pursued by one intending to teach is psychology. This study should be pursued at two periods of the training-school course, the beginning and the end, and its principles should be appealed to daily when not formally studied. The method of study should be both deductive and inductive. The terminology should be early learned from a suitable text-book, and significance given to the terms by introspection, observation, and analysis. Power of introspection should be gained, guidance in observation should be given, and confirmation of psychological principles should be sought on every hand. The habit of thinking analytically and psychologically should be formed by every teacher. At the close of the course a more profound and more completely inductive study of physiological psychology should be made. In this way, a tendency to investigate should be encouraged or created.

STUDY OF CHILDREN

Modern educational thought emphasizes the opinion that the child, not the subject of study, is the guide to the teacher's efforts. To know the child is of paramount importance. How to know the child must be an important item of instruction to the teacher in training. The child must be studied as to his physical, mental, and moral condition. Is he in good health? Are his senses of sight and hearing normal, or in what degree abnormal? What is his temperament? Which of his faculties seem weak or dormant? Is he eye-minded or ear-minded? What are his powers of attention? What are his likes and dislikes? How far is his moral nature developed, and what are its tendencies? By what tests can the degree of difference between bright and dull children be estimated?

To study effectively and observingly these and similar questions respecting children, is a high art. No common-sense power of discerning human nature is sufficient; though common sense and sympathy go a long way in such study. Weighing, measuring, elaborate investigation requiring apparatus and laboratory methods, are for experts, not teachers in training. Above all, it must ever be remembered that the child is to be studied as a personality and not as an object to be weighed or analyzed.

METHODOLOGY

A part of the work under this head must be a study of the mental and moral effects of different methods of teaching and examination, the relative value of individual and class instruction at different periods of school life and in the study of different branches. The art of questioning is to be studied in its foundation principles and by the illustration of the best examples. Some review of the branches which are to be taught may be made, making the teacher's knowledge of them ready and distinct as to the relations of the several parts of the subject to one another and of the whole to kindred subjects. These and many such subjects should be discussed in the class in pedagogy, investigation should be begun, and the lines on which it can be followed should be distinctly laid down.

The laws of psychology, or the capabilities and methods of mind-activity, are themselves the fundamental laws of teaching, which is the act of exciting normal and profitable mind-action. Beyond these fundamental laws, the principles of education are to be derived inductively. These inductions when brought to test will be found to be rational inferences from psychological laws and thus founded upon and explained by them.

SCHOOL ECONOMY

School economy, though a factor of great importance in the teacher's training, can be best studied by the teacher of some maturity and experience, and is of more value in the equipment of secondary than of elementary teachers. Only its outlines and fundamental principles should be studied in the ordinary training-school.

HISTORY OF EDUCATION

Breadth of mind consists in the power to view facts and opinions from the standpoints of others. It is this truth which makes the study of history in a full, appreciative way so influential in giving mental breadth. This general advantage the history of education has in still larger degree, because our interest in the views and experiences of those engaged like us in training the young, enables us to enter more fully into their thoughts and purposes than we could into those of the warrior or ruler. From the efforts of the man we imagine his surroundings, which we contrast with our own. To the abstract element of theoretical truth is added the warm human interest we feel in the hero, the generous partisan of truth. The history of education is particularly full of examples of noble purpose, advanced thought, and moral heroism. It is inspiring to fill our minds with these human ideals. We read in the success of the unpractical Pestalozzi the award made to self-sacrifice, sympathy, and enthusiasm expended in giving application to a vital truth.

But with enthusiasm for ideals history gives us caution, warns us against the moving of the pendulum, and gives us points of departure from which to measure progress. It gives us courage to attack difficult problems. It shows which the abiding problems are—those that can be solved only by waiting, and not tossed aside by a supreme effort. It shows us the progress of the race, the changing ideals of the perfect man, and the means by which men have sought to realize these ideals. We can from its study better answer the question, What is education, what may it accomplish, and how may its ideals be realized? It gives the evolution of the present and explains anomalies in our work. And yet the history of education is not a subject to be treated extensively in a training school. All but the outlines may better be reserved for later professional reading.

TRAINING IN TEACHING

Training to teach requires (1) schools for observation, and (2) schools for practice.

Of necessity, these schools must be separate in purpose and in organization. A practice school cannot be a model school. The pupil-teachers should have the opportunity to observe the best models of the teaching art; and the manner, methods, and devices of the model-teacher should be noted, discussed, and referred to the foundation principles on which they rest. Allowable modifications of this observed work may be suggested by the pupil-teacher and approved by the teacher in charge.

There should be selected certain of the best teachers in regular school work whom the pupil-teachers may be sent to observe. The pupil-teachers should take no part in the school work nor cause any change therein. They should, however, be told in advance by the teacher what purpose she seeks to accomplish. This excites expectation and brings into consciousness the apperceiving ideas by which the suggestions of the exercise, as they develop, may be seized and assimilated.

At first these visits should be made in company with their teacher of methods, and the work of a single class in one subject should be first observed. After such visits the teacher of methods in the given subject should discuss with the pupil-teachers the work observed. The pupil-teachers should first describe the work they have seen and specify the excellences noted, and tell why these things are commendable and upon what laws of teaching they are based. Next the pupil-teachers should question the teacher of methods as to the cause, purpose, or influence of things noted, and matters of doubtful propriety—if there be such—should be considered. Then the teacher in turn should question her pupil-teachers as to matters that seem to have escaped their notice, as to the motive of the model-teacher, as to the reason for the order of treatment, or form of question, wherein lay the merit of her method, the secret of her power. When pupil-teachers have made such observations several times, with several teachers and in several subjects, the broader investigation may be made as to the organization of one of the model rooms, its daily programme of recitations and of study, the methods of discipline, the relations between pupils and teacher, the "school spirit," the school movements, and class progress. This work should be done before teaching groups or classes of pupils is attempted, and should form an occasional exercise during the period of practice-teaching as a matter of relief and inspiration. If an artist requires the suggestive help of a good example that stirs his own originality, why should not a teacher?

THE PRACTICE-SCHOOL

During the course in methodology certain steps closely preparatory to practice-teaching may be taken. 1. The pupil-teacher may analyze the topic to be taught, noting essentials and incidentals, seeking the connections of the subject with the mental possessions of the pupils to be considered and the sequences from these points of contact to the knowledge to be gained under instruction. 2. Next, plans of lessons may be prepared and series of questions for teaching the given subject. 3. Giving lessons to fellow pupil-teachers leads to familiarity with the mechanism of class work, such as calling, directing, and dismissing classes, gives the beginner ease and self-confidence, leads to careful preparation of lessons, gives skill in asking questions and in the use of apparatus.

The practice-teaching should be in another school, preferably in a different building, and should commence with group-teaching in a recitation room apart from the schoolroom. Actual teaching of small groups of children gives opportunity for the study of the child-mind in its efforts at reception and assimilation of new ideas, and shows the modifications in lesson plans that must be made to adapt the subject matter to the child's tastes and activities. But the independent charge for a considerable time of a schoolroom with a full quota of pupils, the pupil-teacher and the children being much of the time the sole occupants of the room—in short, the realization of ordinary school conditions, with the opportunity to go for advice to a friendly critic, is the most valuable practice; and no practice short of this can be considered of great value except as preparation for this chief form of preparatory practice. All this work should have its due proportion only, or evil may result. For example, lesson plans tend to formalism, to self-conceit, to work in few and narrow lines, to study of subjects rather than of pupils; lessons to fellow-pupils make one self-conscious, hinder the growth of enthusiasm in work, and are entirely barren if carried beyond a very few exercises; teaching groups of children for considerable time unfits the teacher for the double burden of discipline and instruction, to bear both of which simultaneously and easily is the teacher's greatest difficulty and most essential power.

A critic-teacher should be appointed to the oversight of two such pupil-teachers, each in charge of a schoolroom. The critic may also supervise one or more teachers practicing for brief periods daily with groups of children.

The pupil-teachers are now to emphasize practice rather than theory, to work under the direction of one who regards the interests of the children quite as much as those of the teacher-in-training. The critic must admit the principles of education and general methods taught by the teacher of methodology, but she may have her own devices and even special methods that need not be those of the teacher of methodology. No harm will come to the teachers-in-training if they learn that principles must be assented to by all, but that methods may bear the stamp of the personality of the teacher; that all things must be considered from the point of view of their effect upon the pupils; the critic maintaining the claims of the children, the teacher of methods conforming to the laws of mind and the science of the subjects taught. The critics must teach for their pupil-teachers and show in action the justness of their suggestions. In this sense they are model-teachers as well as critics.

The critic should at the close of school meet her pupil-teachers for a report of their experiences through the day: What they have attempted, how they have tried to do it, why they did so, and what success they gained. Advice as to overcoming difficulties, encouragement under trial, caution if need be, help for the work of to-morrow, occupy the hour. Above all, the critic should be a true friend, a womanly and cultivated woman, and an inspiring companion, whose presence is helpful to work and improving to personality.

LENGTH OF TRAINING-SCHOOL COURSE

There are three elements which determine the time to be spent in a training school—the time given to academic studies, the time given to professional studies, and the time given to practice. The sum of these periods will be the time required for the training course. Taking these in the inverse order, let us consider how much time is required for practice work with pupils. The time given to lesson outlines and practice with fellow pupil-teachers may be considered a part of the professional study rather than of practice-teaching. The period of practice with pupils must not be too short, whether we consider the interests of the pupils or of the teachers-in-training. An effort is usually made to counteract the effect upon the children of a succession of crude efforts of teachers beginning practice by strengthening the teaching and supervision through the employment of a considerable number of model and supervisory teachers, and by dividing the pupils into small groups so that much individual work can be done. These arrangements, while useful for their purpose, destroy to a considerable degree the usual conditions under which school work is to be done and tend to render the teachers-in-training formal and imitative.

The practice room should be, as far as may be, the ordinary school, with the difficulties and responsibilities that will be met later. The responsibility for order, discipline, progress, records, reports, communication with parents and school authorities, must fall fully upon the young teacher, who has a friendly assistant to whom she can go for advice in the person of a wise and experienced critic, not constantly at hand, but constantly within reach.

Between the critic and the teacher-in-training there should exist the most cordial and familiar relations. These relations are based on the one hand upon an appreciation of wisdom and kindness, on the other, upon an appreciation of sincerity and effort. The growth of such relations, and the fruitage which follows their growth, require time. A half-year is not too long to be allotted for them. During this half-year experience, self-confidence and growth in power have been gained; but the pupil-teacher is still not ready to be set aside to work out her own destiny. At this point she is just ready for marked advance, which should be helped and guided. To remain longer with her critic friend may cause imitation rather than independence, may lead to contentment and cessation of growth. She should now be transferred to the care of a second critic of a different personality, but of equal merit. The new critic is bound by her duty and her ambition to see that the first half year's advancement is maintained in the second. The pupil-teacher finds that excellence is not all upon one model. The value of individuality impresses her. She gains a view of solid principles wrapped in diverse characteristics. Her own individuality rises to new importance, and the elements of a growth not at once to be checked start up within her. For the care of the second critic a second half year must be allowed, which extends the practice work with pupils through an entire school year. For the theoretical work a year is by general experience proven sufficient. The ideal training course is, then, one of two years' length.

Provision for the extended practice which is here recommended can be made only by city training-schools and by normal schools having connection with the schools of a city. To set apart a building of several rooms as a school of practice will answer the purpose only when there are very few teachers in training. In order to give each pupil-teacher a year of practice the number of practice rooms must equal the number of teachers to be graduated annually from the training school, be the number ten, or fifty, or five hundred. In any considerable city a school for practice will not suffice; many schools for practice must be secured. This can be done by selecting one excellent teacher in each of a sufficient number of school buildings, and making her a critic-teacher, giving her charge of two schoolrooms, in each of which is placed a pupil-teacher for training.

This insures that the teaching shall be done as nearly as may be under ordinary conditions, brings the pupil-teachers at once into the general body of teachers, makes the corps of critics a leaven of zeal, and good teaching scattered among the schools. This body of critics will uplift the schools. More capable in the beginning than the average teacher, led to professional study, ambitious for the best things, they make greater progress than they otherwise would do, and are sufficient in themselves to inspire the general body of teachers. For the sake of the pupil-teachers, and the children, too, this plan is best. Its economy also will readily be apparent. This plan has been tried for several years in the schools of Providence, with results fully equal to those herein claimed.

TESTS OF SUCCESS

The tests of success in practice-teaching are in the main those to be applied to all teaching. Do her pupils grow more honest, industrious, polite? Do they admire their teacher? Does she secure obedience and industry only while demanding it, or has she influence that reaches beyond her presence? Do her pupils think well and talk well? As to the teacher herself: Has she sympathy and tact, self-reliance and originality, breadth and intensity? Is she systematic, direct, and business-like? Is she courteous, neat in person and in work? Has she discernment of character and a just standard of requirement and attainment?

These are some of the questions one must answer before he pronounces any teacher a success or a failure.

Admission to a training school assumes that the pupil has good health, good scholarship, good sense, good ability, and devotion to the work of teaching. If all these continue to be exhibited in satisfactory degree and the pupil goes through the prescribed course of study and practice, the diploma of the school should naturally mark the completion of this work. If it appears on acquaintance that a serious mistake has been made in estimating any of these elements, then, so soon as the mistake is fairly apparent and is probably a permanent condition, the pupil should be requested to withdraw from the work. This is not a case where the wheat and the tares should grow together until the harvest at graduation day or the examination preceding it. With such a foundation continually maintained, it is the duty of the school to conquer success for each pupil.

Teaching does not require genius. Indeed genius, in the sense of erratic ability, is out of place in the teacher's chair. Most good teachers at this close of the nineteenth century are made, not born; made from good material well fashioned. There is, however, a possibility that some idiosyncrasy of character, not readily discovered until the test is made, may rise between the prospective teacher and her pupils, making her influence over them small or harmful. Such a defect, if it exist, will appear during the practice-teaching, and the critic will discover it. This defect, on its first discovery, should be plainly pointed out to the teacher-in-training and her efforts should be joined with those of the critic in its removal.

If this effort be a failure and the defect be one likely to harm the pupils hereafter to be taught, then the teacher-in-training should be informed and requested to withdraw from the school. There should be no test at the close of the school course to determine fitness for graduation. Graduation should find the teacher serious in view of her responsibilities, hopeful because she has learned how success is to be attained, inspired with the belief that growth in herself and in her pupils is the great demand and the great reward.

TRAINING OF TEACHERS FOR SECONDARY SCHOOLS

Perhaps one-sixth of the great body of public school teachers in the United States are engaged in secondary work and in supervision. These are the leading teachers. They give educational tone to communities, as well as inspiration to the body of teachers.

It is of great importance that they be imbued with the professional spirit springing from sound professional culture. The very difficult and responsible positions that they fill demand ripe scholarship, more than ordinary ability, and an intimate knowledge of the period of adolescence, which Rousseau so aptly styles the second birth.

The elementary schools provide for the education of the masses. Our secondary schools educate our social and business leaders. The careers of our college graduates who mainly fill the important places in professional and political life are determined largely by the years of secondary training. The college or university gives expansion and finish, the secondary school gives character and direction.

It should not be forgotten that the superintendents of public schools are largely taken from the ranks of secondary teachers, and that the scholarship, qualities, and training required for the one class are nearly equivalent to that demanded for the other.

Our high schools, too, are the source of supply for teachers in elementary schools. Hence the pedagogic influences exerted in the high school should lead to excellence in elementary teaching.

The superintendent who with long foresight looks to the improvement of his schools will labor earnestly to improve and especially to professionalize the teaching in his high school. The management which makes the high school an independent portion of the school system, merely attached and loftily superior, which limits the supervision and influence of the superintendent to the primary and grammar grades, is short-sighted and destructive.

There ought also to be a place and a plan for the training of teachers for normal schools. The great body of normal and training schools in the United States are secondary schools. Those who are to teach in these schools need broad scholarship, thorough understanding of educational problems, and trained experience. To put into these schools teachers whose scholarship is that of the secondary school and whose training is that of the elementary is to narrow and depress rather than broaden and elevate.

If college graduates are put directly into teaching without special study and training, they will teach as they have been taught. The methods of college professors are not in all cases the best, and, if they were, high school pupils are not to be taught nor disciplined as college students are. High school teaching and discipline can be that neither of the grammar school nor of the college, but is *sui generis*. To recognize this truth and the special differences is vital to success. This recognition comes only from much experience at great loss and partial failure, or by happy intuition not usually to be expected, or by definite instruction and directed practice. Success in teaching depends upon conformity to principles, and these principles are not a part of the mental equipment of every educated person.

These considerations and others are the occasion of a growing conviction, widespread in this land, that secondary teachers should be trained for their work even more carefully than elementary teachers are trained. This conviction is manifested in the efforts to secure normal schools adapted to training teachers for secondary schools, notably in Massachusetts and New York, and in the numerous professorships of pedagogy established in rapidly increasing numbers in our colleges and universities.

The training of teachers for secondary schools is in several essential respects the same as that for teachers of elementary schools. Both demand scholarship, theory, and practice. The degree of scholarship required for secondary teachers is by common consent fixed at a collegiate education. No one—

with rare exceptions—should be employed to teach in a high school who has not this fundamental preparation.

It is not necessary to enter in detail into the work of theoretical instruction for secondary teachers. The able men at the head of institutions and departments designed for such work neither need nor desire advice upon this matter. And yet for the purposes of this report it may be allowable to point out a plan for the organization of a secondary training school.

Let it be supposed that two essentials have been found in one locality, (1) a college or university having a department of pedagogy and a department of post-graduate work; (2) a high school, academy, or preparatory school whose managers are willing to employ and pay a number of graduate students to teach under direction for a portion of each day. These two conditions being met, we will suppose that pedagogy is offered as an elective to the college seniors.

Two years of instruction in the science and art of teaching are to be provided; one, mostly theory with some practice, elective during the senior year; the other, mostly practice with some theory, elective for one year as post-graduate work.

During the senior year is to be studied:

THE SCIENCE OF TEACHING

The elements of this science are:

I. Psychology in its physiological, apperceptive, and experimental features. The period of adolescence here assumes the prominence that childhood has in the psychological study preparatory to teaching in lower schools. This is the period of beginnings, the beginning of a more ambitious and generous life, a life having the future wrapped up in it; a transition period, of mental storm and stress, in which egoism gives way to altruism, romance has charm, and the social, moral, and religious feelings bud and bloom. To guide youth at this formative stage, in which an active fermentation occurs that may give wine or vinegar according to conditions, requires a deep and sympathetic nature, and that knowledge of the changing life which supplies guidance wise and adequate.

II. Methodology: a discussion of the principles of education and of the methods of teaching the studies of the secondary schools.

III. School Economy should be studied in a much wider and more thorough way than is required for elementary teachers. The school systems of Germany, France, England, and the leading systems of the United States should also be studied.

IV. History of education, the tracing of modern doctrine back to its sources; those streams of influence now flowing and those that have disappeared in the sands of the centuries.

V. The philosophy of education as a division of an all-involving philosophy of life and thought in which unity is found.

THE ART OF TEACHING

This includes observation and practice. The observation should include the work of different grades and of different localities, with minute and searching comparison and reports upon special topics. How does excellent primary work differ from excellent grammar-grade work? How do the standards of excellence differ between grammar grades and high-school grades? between high-school and college work? What are the arguments for and against coeducation in secondary schools as determined by experience? What are the upper and lower limits of secondary education as determined by the nature of the pupil's effort?

In the college class in pedagogy much more than in the elementary normal school can the class itself be made to afford a means of practice to its members. Quizzes may be conducted by students upon the chapters of the books read or the lectures of the professors. These exercises may have for their object review, or improved statement, or enlarged inference and application, and they afford an ample opportunity to cultivate the art of questioning, skill in which is the teacher's most essential accomplishment.

The head of the department of pedagogy will of course present the essential methods of teaching, and the heads of other departments may lecture on methods pertaining to their subject of study; or secondary teachers of known success may still better present the methods now approved in the several departments of secondary work.

POST-GRADUATE YEAR

To those graduates who have elected pedagogy in their senior year may be offered the opportunity of further study in this department, with such other post-graduate work as taste and opportunity permit. From those selecting advanced work in pedagogy the board in charge of the affiliated secondary school should elect as many teachers for its school as are needed, employing them for two-thirds time at one-half the usual pay for teachers without experience. Under the professor of pedagogy of the college, the principal, and the heads of departments of the school these student-teachers should do their work, receiving advice, criticism, and illustration as occasion requires. The time for which they are employed would provide for two hours of class work and about one hour of clerical work or study while in charge of a schoolroom. These student-teachers should be given abundant opportunity for the charge of pupils while reciting or studying, at recess and dismissals, and should have all the responsibilities of members of the faculty of this school. Their work should be inspected as frequently as may be by the heads of the departments in which they teach, by the principal of the school, and by the professor of pedagogy. These appointments would be virtually fellowships with an opportunity for most profitable experience.

In the afternoon of each day these students should attend to college work and especially to instruction from the professor in pedagogy, who could meet them occasionally with the heads of the departments under whose direction they are working.

On Saturdays a seminary of two hours' duration might be held, conducted by the professor of pedagogy and attended by the student-teachers and the more ambitious teachers of experience in the vicinity. These seminaries would doubtless be of great profit to both classes of participants and the greater to each because of the other. [Such a training school for secondary teachers in connection with Brown University and the Providence High School is contemplated for the coming year.]

It will not be needful to specify further the advantages to the student-teachers. The arrangement likewise affords advantage to the affiliated school, especially in the breadth of view this work would afford to the heads of departments, the intense desire it would beget in them for professional skill, the number of perplexing problems which it would force them to attempt the solution of.

The visits of the professor of pedagogy, and the constant comparison he would make between actual and ideal conditions, would lead him to seek the improvement not only of the students in practice but of the school as a whole.

When several earnest and capable people unite in a mutual effort to improve themselves and their work all the essential conditions of progress are present.

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EDWARD BROOKS,
Superintendent of Schools, Philadelphia, Pa.
THOMAS M. BALLIET,
Superintendent of Schools, Springfield, Mass.
NEWTON C. DOUGHERTY,
Superintendent of Schools, Peoria, Ill.
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II

COMMITTEE OF FIFTEEN

REPORT OF THE SUB-COMMITTEE ON THE CORRELATION OF STUDIES IN ELEMENTARY EDUCATION

The undersigned Committee agrees upon the following report, each member reserving for himself the expression of his individual divergence from the opinion of the majority, by a statement appended to his signature, enumerating the points to which exception is taken and the grounds for them.

I. CORRELATION OF STUDIES

Your Committee understands by correlation of studies:

1. Logical order of topics and branches

First, the arrangement of topics in proper sequence in the course of study, in such a manner that each branch develops in an order suited to the natural and easy progress of the child, and so that each step is taken at the proper time to help his advance to the next step in the same branch, or to the next steps in other related branches of the course of study.

2. Symmetrical whole of studies in the world of human learning

Second, the adjustment of the branches of study in such a manner that the whole course at any given time represents all the great divisions of human learning, as far as is possible at the stage of maturity at which the pupil has arrived, and that each allied group of studies is represented by some one of its branches best adapted for the epoch in question; it being implied that there is an equivalence of studies to a greater or less degree within each group, and that each branch of human learning should be represented by some equivalent study; so that, while no great division is left unrepresented, no group shall have superfluous representatives and thereby debar other groups from a proper representation.

3. Psychological symmetry—the whole mind

Third, the selection and arrangement of the branches and topics within each branch considered psychologically with a view to afford the best exercise of the faculties of the mind, and to secure the unfolding of those faculties in their natural order, so that no one faculty is so overcultivated or so neglected as to produce abnormal or one-sided mental development.

4. Correlation of pupil's course of study with the world in which he lives—his spiritual and natural environment

Fourth and chiefly, your Committee understands by correlation of studies the selection and arrangement in orderly sequence of such objects of study as shall give the child an insight into the world that he lives in, and a command over its resources such as is obtained by a helpful co-operation with one's fellows. In a word, the chief consideration to which all others are to be subordinated, in the opinion of your Committee, is this requirement of the civilization into which the child is born, as determining not only what he shall study in school, but what habits and customs he shall be taught in the family before the school age arrives; as well as that he shall acquire a skilled acquaintance with some one of a definite series of trades, professions, or vocations in the years that follow school; and, furthermore, that this question of the relation of the pupil to his civilization determines what political duties he shall assume and what religious faith or spiritual aspirations shall be adopted for the conduct of his life.

To make more clear their reasons for the preference here expressed for the objective and practical basis of selection of topics for the course of study, rather than the subjective basis so long favored by educational writers, your Committee would describe the psychological basis, already mentioned, as being merely formal in its character, relating only to the exercise of the so-called mental faculties.

It would furnish a training of spiritual powers analogous to the gymnastic training of the muscles of the body. Gymnastics may develop strength and agility without leading to any skill in trades or useful employment. So an abstract psychological training may develop the will, the intellect, the imagination, or the memory, but without leading to an exercise of acquired power in the interests of civilization. The game of chess would furnish a good course of study for the discipline of the powers of attention and calculation of abstract combinations, but it would give its possessor little or no knowledge of man or nature. The psychological ideal which has prevailed to a large extent in education has in the old phrenology, and in the recent studies in physiological psychology, sometimes given place to a biological ideal. Instead of the view of mind as made up of faculties like will, intellect, imagination and emotion, conceived to be all necessary to the soul if developed in harmony with one another, the concept of nerves or brain-tracts is used as the ultimate regulative principle to determine the selection and arrangement of studies. Each part of the brain is supposed to have its claim on the attention of the educator, and that study is thought to be the most valuable which employs normally the larger number of brain-tracts. This view reaches an extreme in the direction of formal as opposed to objective or practical grounds for selecting a course of study. While the old psychology with its mental faculties concentrated its attention on the mental processes and neglected the world of existing objects and relations upon which those processes were directed, physiological psychology tends to confine its attention to the physical part of the process, the organic changes in the brain cells and their functions.

Your Committee is of the opinion that psychology of both kinds, physiological and introspective, can hold only a subordinate place in the settlement of questions relating to the correlation of studies. The branches to be studied, and the extent to which they are studied, will be determined mainly by the demands of one's civilization. These will prescribe what is most useful to make the individual acquainted with physical nature and with human nature so as to fit him as an individual to perform his duties in the several institutions—family, civil society, the state, and the Church. But next after this, psychology will furnish important considerations that will largely determine the methods of instruction, the order of taking up the several topics so as to adapt the school work to the growth of the pupil's capacity, and the amount of work so as not to overtax his powers by too much or arrest the development of strength by too little. A vast number of subordinate details belonging to the pathology of education, such as the hygienic features of school architecture and furniture, programmes, the length of study hours and of class exercises, recreation, and bodily reactions against mental effort, will be finally settled by scientific experiment in the department of physiological psychology.

Inasmuch as your Committee is limited to the consideration of the correlation of studies in the elementary school, it has considered the question of the course of study in general only in so far as this has been found necessary in discussing the grounds for the selection of studies for the period of school education occupying the eight years from six to fourteen years, or the school period between the kindergarten on the one hand and the secondary school on the other. It has not been possible to avoid some inquiry into the true distinction between secondary and elementary studies, since one of the most important questions forced upon the attention of your Committee is that of the abridgment of the elementary course of study from eight or more years to seven or even six years, and the corresponding increase of the time devoted to studies usually assigned to the high school and supposed to belong to the secondary course of study for some intrinsic reason.

II. THE COURSE OF STUDY—EDUCATIONAL VALUES

Your Committee would report that it has discussed in detail the several branches of study that have found a place in the curriculum of the elementary school, with a view to discover their educational value for developing and training the faculties of the mind, and more especially for correlating the pupil with his spiritual and natural environment in the world in which he lives.

A. Language studies

There is first to be noted the prominent place of language study that takes the form of reading, penmanship, and grammar in the first eight years' work of the school. It is claimed for the partiality shown to these studies that it is justified by the fact that language is the instrument that makes possible human social organization. It enables each person to communicate his individual experience to his fellows and thus permits each to profit by the experience of all. The written and printed forms of speech preserve human knowledge and make progress in civilization possible. The conclusion is reached that learning to read and write should be the leading study of the pupil in his first four years of school. Reading and writing are not so much ends in themselves as means for the acquirement of all other human learning. This consideration alone would be sufficient to justify their actual place in the work of the elementary school. But these branches require of the learner a difficult process of analysis. The pupil must identify the separate words in the sentence he uses, and in the next place must recognize the separate sounds in each word. It requires a considerable effort for the child or the savage to analyze his sentence into its constituent words, and a still greater effort to discriminate its elementary sounds. Reading, writing, and spelling in their most elementary form, therefore, constitute a severe training in mental analysis for the child of six to ten years of age. We are told that it is far more disciplinary to the mind than any species of observation of differences among material things, because of the fact that the word has a twofold character—addressed to external sense as spoken sound to the ear, or as written and printed words to the eye—but containing a meaning or sense addressed to the understanding and only to be seized by introspection.

The pupil must call up the corresponding idea by thought, memory, and imagination, or else the word will cease to be a word and remain only a sound or character.

On the other hand, observation of things and movements does not necessarily involve this twofold act of analysis, introspective and objective, but only the latter—the objective analysis. It is granted that we all have frequent occasion to condemn poor methods of instruction as teaching words rather than things. But we admit that we mean empty sounds or characters rather than true words. Our suggestions for the correct method of teaching amount in this case simply to laying stress on the meaning of the word, and to setting the teaching process on the road of analysis of content rather than form. In the case of words used to store up external observation the teacher is told to repeat and make alive again the act of observation by which the word obtained its original meaning. In the case of a word expressing a relation between facts or events, the pupil is to be taken step by step through the process of reflection by which the idea was built up. Since the word, spoken and written, is the sole instrument by which reason can fix, preserve, and communicate both the data of sense and the relations discovered between them by reflection, no new method in education has been able to supplant in the school the branches, reading and penmanship. But the real improvements in method have led teachers to lay greater and greater stress on the internal factor of the word, on its meaning, and have in manifold ways shown how to repeat the original experiences that gave the meaning to concrete words, and the original comparisons and logical deductions by which the ideas of relations and causal processes arose in the mind and required abstract words to preserve and communicate them.

It has been claimed that it would be better to have first a basis of knowledge of things, and secondarily and subsequently a knowledge of words. But it has been replied to this, that the progress of the child in learning to talk indicates his ascent out of mere impressions into the possession of true knowledge. For he names objects only after he has made some synthesis of his impressions and has formed general ideas. He recognizes the same object under different circumstances of time and place, and also recognizes other objects belonging to the same class by and with names. Hence the use of the word indicates a higher degree of self-activity—the stage of mere impressions without words or signs being a comparatively passive state of mind. What we mean by things first and words afterward, is therefore not the apprehension of objects by passive impressions so much as the active investigation and experimenting which come after words are used and the higher forms of analysis are called into being by that invention of reason known as language, which, as before said, is a synthesis of thing and thought, of outward sign and inward signification.

Rational investigation cannot precede the invention of language any more than blacksmithing can precede the invention of hammers, anvils, and pincers. For language is the necessary tool of thought used in the conduct of the analysis and synthesis of investigation.

Your Committee would sum up these considerations by saying that language rightfully forms the center of instruction in the elementary school, but that progress in methods of teaching is to be made, as hitherto, chiefly by laying more stress on the internal side of the word, its meaning; using better graded steps to build up the chain of experience or the train of thought that the word expresses.

The first three years' work of the child is occupied mainly with the mastery of the printed and written forms of the words of his colloquial vocabulary; words that he is already familiar enough with as sounds addressed to the ear. He has to become familiar with the new forms addressed to the eye, and it would be an unwise method to require him to learn many new words at the same time that he is learning to recognize his old words in their new shape. But as soon as he has acquired some facility in reading what is printed in the colloquial style, he may go on to selections from standard authors. The literary selections should be graded, and are graded in almost all series of readers used in our elementary schools, in such a way as to bring those containing the fewest words outside of the colloquial vocabulary into the lower books of the series, and increasing the difficulties step by step as the pupil grows in maturity. The selections are literary works of art possessing the required organic unity and a proper reflection of this unity in the details, as good works of art must do. But they portray situations of the soul, or scenes of life, or elaborated reflections, of which the child can obtain some grasp through his capacity to feel and think, although in scope and compass they far surpass his range. They are adapted therefore to lead him out of and beyond himself, as spiritual guides.

Literary style employs, besides words common to the colloquial vocabulary, words used in a semi-technical sense expressive of fine shades of thought and emotion. The literary work of art furnishes a happy expression for some situation of the soul, or some train of reflection hitherto unutterable in an adequate manner. If the pupil learns this literary production, he finds himself powerfully helped to understand both himself and his fellow-men. The most practical knowledge of all, it will be admitted, is a knowledge of human nature—a knowledge that enables one to combine with his fellow-men and to share with them the physical and spiritual wealth of the race. Of this high character as humanizing or civilizing, are the favorite works of literature found in the school readers, about one hundred and fifty English and American writers being drawn upon for the material. Such are Shakspere's speeches of Brutus and Mark Antony, Hamlet's and Macbeth's soliloquies, Milton's L'Allegro and Il Penseroso, Gray's Elegy, Tennyson's Charge of the Light Brigade and Ode on the Death of the Duke of Wellington, Byron's Waterloo, Irving's Rip Van Winkle, Webster's Reply to Hayne, The trial of Knapp, and Bunker Hill oration, Scott's Lochinvar, Marmion, and Roderick Dhu, Bryant's Thanatopsis, Longfellow's Psalm of Life, Paul Revere, and The Bridge, O'Hara's Bivouac of the Dead, Campbell's Hohenlinden, Collins' How Sleep the Brave, Wolfe's Burial of Sir John Moore, and other fine prose and poetry from Addison, Emerson, Franklin, The Bible, Hawthorne, Walter Scott, Goldsmith, Wordsworth, Swift, Milton, Cooper, Whittier, Lowell, and the rest. The reading and study of fine selections in prose and verse furnish the chief æsthetic training of the elementary school. But this should be re-enforced by some study of photographic or other reproductions of the world's great masterpieces of architecture, sculpture, and painting. The frequent sight of these reproductions is good; the attempt to copy or sketch them with the pencil is better; best of all is an æsthetic lesson on their composition, attempting to describe in words the idea of the whole that gives the work its organic unity, and the devices adopted by the artist to reflect this idea in the details and re-enforce its strength. The æsthetic taste of teacher and pupil can be cultivated by such exercises, and once set on the road of development this taste may improve through life.

A third phase of language study in the elementary school is formal grammar. The works of literary art in the readers, re-enforced as they ought to be by supplementary reading at home of the whole works from which the selections for the school readers are made, will educate the child in the use of a higher and better English style. Technical grammar never can do this. Only familiarity with fine English works will insure one a good and correct style. But grammar is the science of language, and as the first of the seven liberal arts it has long held sway in school as the disciplinary study *par excellence.* A survey of its educational value, subjective and objective, usually produces the conviction that it is to retain the first place in the future. Its chief objective advantage is that it shows the structure of language, and the logical forms of subject, predicate, and modifier, thus revealing the essential nature of thought itself, the most important of all objects because it is self-object. On the subjective or psychological side, grammar demonstrates its title to the first place by its use as a discipline in subtle analysis, in logical division and classification, in the art of questioning, and in the mental accomplishment of making exact definitions. Nor is this an empty, formal discipline, for its subject matter, language, is a product of the reason of a people not as individuals but as a social whole, and the vocabulary holds in its store of words the generalized experience of that people, including sensuous observation and reflection, feeling and emotion, instinct and volition.

No formal labor on a great objective field is ever lost wholly, since at the very least it has the merit of familiarizing the pupil with the contents of some one extensive province that borders on his life, and with which he must come into correlation; but it is easy for any special formal discipline, when continued too long, to paralyze or arrest growth at that stage. The overcultivation of the verbal memory tends to arrest the growth of critical attention and reflection. Memory of accessory details too, so much prized in the school, is also cultivated often at the expense of an insight into the organizing principle of the whole and the causal nexus that binds the parts. So too the study of quantity, if carried to excess, may warp the mind into a habit of neglecting quality in its observation and reflection. As there is no subsumption in the quantitative judgment but only dead equality or inequality (A is equal to or greater or less than B), there is a tendency to atrophy in the faculty of concrete syllogistic reasoning on the part of the person devoted exclusively to mathematics. For the normal syllogism usesjudgments wherein the subject is subsumed under the predicate (This is a rose—the individual rose is subsumed under the class rose; Socrates is a man, etc.). Such reasoning concerns individuals in two aspects, first as concrete wholes and secondly as members of higher totalities or classes—species and genera. Thus, too, grammar, rich as it is in its contents, is only a formal discipline as respects the scientific, historic, or literary contents of language, and is indifferent to them. A training for four or five years in parsing and grammatical analysis practiced on literary works of art (Milton, Shakspere, Tennyson, Scott) is a training of the pupil into habits of indifference toward and neglect of the genius displayed in the literary work of art, and into habits of impertinent and trifling attention to elements employed as material or texture, and a corresponding neglect of the structural form which alone is the work of the artist. A parallel to this would be the mason's habit of noticing only the brick and mortar, or the stone and cement, in his inspection of the architecture, say of Sir Christopher Wren. A child overtrained to analyze and classify shades of color—examples of this one finds occasionally in a primary school whose specialty is "objective teaching"—might in later life visit an art gallery and make an inventory of colors without getting even a glimpse of a painting as a work of art. Such overstudy and misuse of grammar as one finds in the elementary school, it is feared, exists to some extent in secondary schools and even in colleges, in the work of mastering the classic authors.

Your Committee is unanimous in the conviction that formal grammar should not be allowed to usurp the place of a study of the literary work of art in accordance with literary method. The child can be gradually trained to see the technical "motives" of a poem or prose work of art and to enjoy the æsthetic inventions of the artist. The analysis of a work of art should discover the idea that gives it organic unity; the collision and the complication resulting; the solution and *dénouement*. Of course these things must be reached in the elementary school without even a mention of their technical terms. The subject of the piece is brought out; its reflection in the conditions of the time and place to heighten interest by showing its importance; its second and stronger reflection in the several details of its conflict and struggle; its reflection in the *dénouement* wherein its struggle ends in victory or defeat and the ethical or rational interests are vindicated,—and the results move outward, returning to the environment again in ever-widening circles,—something resembling this is to be found in every work of art, and there are salient features which can be briefly but profitably made subject of comment in familiar language with even the youngest pupils. There is an ethical and an æsthetical content to each work of art. It is profitable to point out both of these in the interest of the child's growing insight into human nature. The ethical should, however, be kept in subordination to the æsthetical, but for the sake of the supreme interests of the ethical itself. Otherwise the study of a work of art degenerates into a goody-goody performance, and its effects on the child are to cause a reaction against the moral. The child protects his inner individuality against effacement through external authority by taking an attitude of rebellion against stories with an appended moral. Herein the superiority of the æsthetical in literary art is to be seen. For the ethical motive is concealed by the poet, and the hero is painted with all his brittle individualism and self-seeking. His passions and his selfishness, gilded by fine traits of bravery and noble manners, interest the youth, interest us all. The established social and moral order seems to the ambitious hero to be an obstacle to the unfolding of the charms of individuality. The deed of violence gets done, and the Nemesis is aroused. Now his deed comes back on the individual doer, and our sympathy turns against him and we rejoice in his fall. Thus the æsthetical unity contains within it the ethical unity. The lesson of the great poet or novelist is taken to heart, whereas the ethical announcement by itself might have failed, especially with the most self-active and aspiring of the pupils. Aristotle pointed out in his Poetics this advantage of the æsthetic unity, which Plato in his Republic seems to have missed. Tragedy purges us of our passions, to use Aristotle's expression, because we identify our own wrong inclinations with those of the hero, and by sympathy we suffer with him and see our intended deed returned upon us with tragic effect, and are thereby cured.

Your Committee has dwelt upon the æsthetic side of literature in this explicit manner because they believe that the general tendency in elementary schools is to neglect the literary art for the literary formalities which concern the mechanical material rather than the spiritual form. Those formal studies should not be discontinued, but subordinated to the higher study of literature.

Your Committee reserves the subject of language lessons, composition writing, and what relates to the child's expression of ideas in writing, for consideration under Part 3 of this Report, treating of programme.

B. Arithmetic

Side by side with language study is the study of mathematics in the schools, claiming the second place in importance of all studies. It has been pointed out that mathematics concerns the laws of time and space—their structural form, so to speak—and hence that it formulates the logical conditions of all matter both in rest and in motion. Be this as it may, the high position of mathematics as the science of all quantity is universally acknowledged. The elementary branch of mathematics is arithmetic, and this is studied in the primary and grammar schools from six to eight years, or even longer. The relation of arithmetic to the whole field of mathematics has been stated (by Comte, Howison, and others) to be that of the final step in a process of calculation in which results are stated numerically. There are branches that develop or derive quantitative functions: say geometry for spatial forms, and mechanics for movement and rest and the forces producing them. Other branches transform these quantitative functions into such forms as may be calculated in actual numbers; namely, algebra in its common or lower form, and in its higher form as the differential and integral calculus, and the calculus of variations. Arithmetic evaluates or finds the numerical value for the functions thus deduced and transformed. The educational value of arithmetic is thus indicated both as concerns its psychological side and its objective practical uses in correlating man with the world of nature. In this latter respect as furnishing the key to the outer world in so far as the objects of the latter are a matter of direct enumeration,—capable of being counted,—it is the first great step in the conquest of nature. It is the first tool of thought that man invents in the work of emancipating himself from thraldom to external forces. For by the command of number he learns to divide and conquer. He can proportion one force to another, and concentrate against an obstacle precisely what is needed to overcome it. Number also makes possible all the other sciences of nature which depend on exact measurement and exact record of phenomena as to the following items: order of succession, date, duration, locality, environment, extent of sphere of influence, number of manifestations, number of cases of intermittence. All these can be defined accurately only by means of number. The educational value of a branch of study that furnishes the indispensable first step toward all science of nature is obvious. But psychologically its importance further appears in this, that it begins with an important step in analysis; namely, the detachment of the idea of quantity from the concrete whole which includes quality as well as quantity. To count, one drops the qualitative and considers only the quantitative aspect. So long as the individual differences (which are qualitative in so far as they distinguish one object from another) are considered, the objects cannot be counted together. When counted, the distinctions are dropped out of sight as indifferent. As counting is the fundamental operation of arithmetic, and all other arithmetical operations are simply devices for speed by using remembered countings instead of going through the detailed work again each time, the hint is furnished the teacher for the first lessons in arithmetic. This hint has been generally followed out and the child set at work at first upon the counting of objects so much alike that the qualitative difference is not suggested to him. He constructs gradually his tables of addition, subtraction, and multiplication, and fixes them in his memory. Then he takes his next higher step, namely the apprehension of the fraction. This is an expressed ratio of two numbers, and therefore a much more complex thought than he has met with in dealing with the simple numbers. In thinking five-sixths he first thinks five and then six, and holding these two in mind thinks the result of the first modified by the second. Here are three steps instead of one, and the result is not a simple number but an inference resting on an unperformed operation. This psychological analysis shows the reason for the embarrassment of the child on his entrance upon the study of fractions and the other operations that imply ratio. The teacher finds all his resources in the way of method drawn upon to invent steps and half steps, to aid the pupil to make continuous progress here. All these devices of method consist in steps by which the pupil descends to the simple number and returns to the complex. He turns one of the terms into a qualitative unit and thus is enabled to use the other as a simple number. The pupil takes the denominator, for example, and makes clear his conception of one-sixth as his qualitative unit, then five-sixths is as clear to him as five oxen. But he has to repeat this return from ratio to simple numbers in each of the elementary operations—addition, subtraction, multiplication, and division, and in the reduction of fractions—and finds the road long and tedious at best. In the case of decimal fractions the psychological process is more complex still; for the pupil has given him one of the terms, the numerator, from which he must mentally deduce the denominator from the position of the decimal point. This doubles the work of reading and recognizing the fractional number. But it makes addition and subtraction of fractions nearly as easy as that of simple numbers and assists also in multiplication of fractions. But division of decimals is a much more complex operation than that of common fractions.

The want of a psychological analysis of these processes has led many good teachers to attempt decimal fractions with their pupils before taking up common fractions. In the end they have been forced to make introductory steps to aid the pupil and in these steps to introduce the theory of the common fraction. They have by this refuted their own theory.

Besides (*a*) simple numbers and the four operations with them, (*b*) fractions common and decimal, there is (*c*) a third step in number, namely the theory of powers and roots. It is a further step in ratio, namely the relation of a simple number to itself as power and root. The mass of material which fills the arithmetic used in the elementary school consists of two kinds of examples, first, those wherein there is a direct application of simple numbers, fractions, and powers, and secondly the class of examples involving operations in reaching numerical solutions through indirect data and consequently involving more or less transformation of functions. Of this character is most of the so-called higher arithmetic and such problems in the text-book used in the elementary schools as have, not inappropriately, been called (by General Francis A. Walker in his criticism on common-school arithmetic) numerical "conundrums." Their difficulty is not found in the strictly arithmetical part of the process of the solution (the third phase above described), but rather in the transformation of the quantitative function given into the function that can readily be calculated numerically. The transformation of functions belongs strictly to algebra. Teachers who love arithmetic, and who have themselves success in working out the so-called numerical conundrums, defend with much earnestness the current practice which uses so much time for arithmetic. They see in it a valuable training for ingenuity and logical analysis, and believe that the industry which discovers arithmetical ways of transforming the functions given in such problems into plain numerical operations of adding, subtracting, multiplying, or dividing is well bestowed. On the other hand the critics of this practice contend that there should be no merely formal drill in school for its own sake, and that there should be, always, a substantial content to be gained. They contend that the work of the pupil in transforming quantitative functions by arithmetical methods is wasted, because the pupil needs a more adequate expression than number for this purpose; that this has been discovered in algebra, which enables him to perform with ease such quantitative transformations as puzzle the pupil in arithmetic. They hold, therefore, that arithmetic pure and simple should be abridged and elementary algebra introduced after the numerical operations in powers, fractions, and simple numbers have been mastered, together with their applications to the tables of weights and measures and to percentage and interest. In the seventh year of the elementary course there would be taught equations of the first degree and the solution of arithmetical problems that fall under proportion or the so-called "rule of three," together with other problems containing complicated conditions—those in partnership for example. In the eighth year quadratic equations could be learned, and other problems of higher arithmetic solved in a more satisfactory manner than by numerical methods. It is contended that this earlier introduction of algebra, with a sparing use of letters for known quantities, would secure far more mathematical progress than is obtained at present on the part of all pupils, and that it would enable many pupils to go on into secondary and higher education who are now kept back on the plea of lack of preparation in arithmetic, the real difficulty in many cases being a lack of ability to solve algebraic problems by an inferior method.

Your Committee would report that the practice of teaching two lessons daily in arithmetic, one styled "mental" or "intellectual" and the other "written" arithmetic (because its exercises are written out with pencil or pen) is still continued in many schools. By this device the pupil is made to give twice as much time to arithmetic as to any other branch. It is contended by the opponents of this practice, with some show of reason, that two lessons a day in the study of quantity have a tendency to give the mind a bent or set in the direction of thinking quantitatively with a corresponding neglect of the power to observe, and to reflect upon, qualitative and causal aspects. For mathematics does not take account of causes, but only of equality and difference in magnitude. It is further objected that the attempt to secure what is called thoroughness in the branches taught in the elementary schools is often carried too far; in fact, to such an extent as to produce arrested development (a sort of mental paralysis) in the mechanical and formal stages of growth. The mind in that case loses its appetite for higher methods and wider generalizations. The law of apperception, we are told, proves that temporary methods of solving problems should not be so thoroughly mastered as to be used involuntarily or as a matter of unconscious habit, for the reason that a higher and a more adequate method of solution will then be found more difficult to acquire. The more thoroughly a method is learned, the more it becomes part of the mind and the greater the repugnance of the mind toward a new method. For this reason parents and teachers discourage young children from the practice of counting on the fingers, believing that it will cause much trouble later to root out this vicious habit and replace it by purely mental processes. Teachers should be careful, especially with precocious children, not to continue too long in the use of a process that is becoming mechanical; for it is already growing into a second nature, and becoming a part of the unconscious apperceptive process by which the mind reacts against the environment, recognizes its presence, and explains it to itself. The child that has been overtrained in arithmetic reacts apperceptively against his environment chiefly by noticing its numerical relations—he counts and adds; his other apperceptive reactions being feeble, he neglects qualities and causal relations. Another child who has been drilled in recognizing colors apperceives the shades of color to the neglect of all else. A third child, excessively trained in form studies by the constant use of geometric solids and much practice in looking for the fundamental geometric forms lying at the basis of the multifarious objects that exist in the world, will as a matter of course apperceive geometric forms, ignoring the other phases of objects.

It is, certainly, an advance on immediate sense-perception to be able to separate or analyze the concrete, whole impression, and consider the quantity apart by itself. But if arrested mental growth takes place here the result is deplorable. That such arrest may be caused by too exclusive training in recognizing numerical relations is beyond a doubt.

Your Committee believes that, with the right methods, and a wise use of time in preparing the arithmetic lesson in and out of school, five years are sufficient for the study of mere arithmetic—the five years beginning with the second school year and ending with the close of the sixth year; and that the seventh and eighth years should be given to the algebraic method of dealing with those problems that involve difficulties in the transformation of quantitative indirect functions into numerical or direct quantitative data.

Your Committee, however, does not wish to be understood as recommending the transfer of algebra, as it is understood and taught in most secondary schools, to the seventh year or even to the eighth year of the elementary school. The algebra course in the secondary school, as taught to pupils in their fifteenth year of age, very properly begins with severe exercises with a view to discipline the pupil in analyzing complex literate expressions at sight and to make him able to recognize at once the factors that are contained in such combinations of quantities. The proposed seventh-grade algebra must use letters for the unknown quantities and retain the numerical form of the known quantities, using letters for these very rarely, except to exhibit the general form of solution or what, if stated in words, becomes a so-called "rule" in arithmetic. This species of algebra has the character of an introduction or transitional step to algebra proper. The latter should be taught thoroughly in the secondary school. Formerly it was a common practice to teach elementary algebra of this sort in the preparatory schools and reserve for the college a study of algebra proper. But in this case there was often a neglect of sufficient practice in factoring literate quantities, and as a consequence the pupil suffered embarrassment in his more advanced mathematics, for example in analytical geometry, the differential calculus, and mechanics. The proposition of your Committee is intended to remedy the two evils already named: first to aid the pupils in the elementary school to solve, by a higher method, the more difficult problems that now find place in advanced arithmetic; and secondly, to prepare the pupil for a thorough course in pure algebra in the secondary school.

Your Committee is of the opinion that the so-called mental arithmetic should be made to alternate with written arithmetic for two years and that there should not be two daily lessons in this subject.

C. Geography

The leading branch of the seven liberal arts was grammar, being the first of the *Trivium* (grammar, rhetoric, and logic).

Arithmetic, however, led the second division, the *Quadrivium* (arithmetic, geometry, music, and astronomy). We have glanced at the reasons for the place of grammar as leading the humane studies as well as for the place of arithmetic as leading the nature studies. Following arithmetic as the second study in importance among the branches that correlate man to nature is geography. It is interesting to note that the old quadrivium of the Middle Ages included geography, under the title of geometry, as the branch following arithmetic in the enumeration; the subject matter of their so-called "geometry" being chiefly an abridgment of Pliny's geography, to which were added a few definitions of geometric forms, something like the primary course in geometric solids in our elementary schools. So long as there has been elementary education there has been something of geography included. The Greek education laid stress on teaching the second book of Homer containing the Catalogue of the Ships and a brief mention of the geography and history of all the Greek tribes that took part in the Trojan War. History remains unseparated from geography and geometry in the Middle Ages. Geography has preserved this comprehensiveness of meaning as a branch of the study in the elementary schools down to the present day. After arithmetic, which treats of the abstract or general conditions of material existence, comes geography with a practical study of man's material *habitat* and its relations to him. It is not a simple science by itself, like botany or geology or astronomy, but a collection of sciences levied upon to describe the earth as the dwelling-place of man and to explain something of its more prominent features. About one-fourth of the material relates strictly to the geography, about one-half to the inhabitants, their manners, customs, institutions, industries, productions, and the remaining one-fourth to items drawn from the sciences of mineralogy, meteorology, botany, zoölogy, and astronomy. This predominance of the human feature in a study ostensibly relating to physical nature, your Committee considers necessary and entirely justifiable. The child commences with what is nearest to his interests, and proceeds gradually toward what is remote and to be studied for its own sake. It is therefore a mistake to suppose that the first phase of geography presented to the child should be the process of continent formation. He must begin with the natural differences of climate and lands and waters and obstacles that separate peoples, and study the methods by which man strives to equalize or overcome these differences by industry and commerce, to unite all places and all people, and make it possible for each to share in the productions of all. The industrial and commercial idea is therefore the first central idea in the study of geography in the elementary schools. It leads directly to the natural elements of difference in climate, soil, and productions, and also to those in race, religion, political status, and occupations of the inhabitants, with a view to explain the grounds and reasons for this counter-process of civilization which struggles to overcome the differences. Next comes the deeper inquiry into the process of continent formation, the physical struggle between the process of upheaving or upbuilding of continents and that of their obliteration by air and water; the explanation of the mountains, valleys, and plains, the islands, volcanic action, the winds, the rain-distribution. But the study of cities, their location, the purposes they serve as collecting, manufacturing, and distributing centers, leads most directly to the immediate purpose of geography in the elementary school. From this beginning, and holding to it as a permanent interest, the inquiry into causes and conditions proceeds concentrically to the sources of the raw materials, the methods of their production and the climatic, geologic, and other reasons that explain their location and their growth.

In recent years, especially through the scientific study of physical geography, the processes that go to the formation of climate, soil, and general configuration of land masses have been accurately determined, and the methods of teaching so simplified that it is possible to lead out from the central idea mentioned to the physical explanations of the elements of geographical difference quite early in the course of study. Setting out from the idea of the use made of the earth by civilization, the pupil in the fifth and sixth years of his schooling (at the age of eleven or twelve) may extend his inquiries quite profitably as far as the physical explanations of land-shapes and climates. In the seventh and eighth year of school much more may be done in this direction. But it is believed that the distinctively human interest connected with geography in the first years of its study should not yield to the purely scientific one of physical processes until the pupil has taken up the study of history.

The educational value of geography, as it is and has been in elementary schools, is obviously very great. It makes possible something like accuracy in the picturing of distant places and events and removes a large tract of mere superstition from the mind. In the days of newspaper reading one's stock of geographical information is in constant requisition. A war on the opposite side of the globe is followed with more interest in this year than a war near our own borders before the era of the telegraph. The general knowledge of the locations and boundaries of nations, of their status in civilization and their natural advantages for contributing to the world market, is of great use to the citizen in forming correct ideas from his daily reading.

The educational value of geography is even more apparent if we admit the claims of those who argue that the present epoch is the beginning of an era in which public opinion is organized into a ruling force by the agency of periodicals and books. Certainly neither the newspaper nor the book can influence an illiterate people: they can do little to form opinions where the readers have no knowledge of geography.

As to the psychological value of geography little need be said. It exercises in manifold ways the memory of forms and the imagination; it brings into exercise the thinking power in tracing back toward unity the various series of causes. What educative value there is in geology, meteorology, zoölogy, ethnology, economics, history, and politics is to be found in the more profound study of geography, and, to a proportionate extent, in the study of its merest elements.

Your Committee is of the opinion that there has been a vast improvement in the methods of instruction in this branch in recent years, due in large measure to the geographical societies of this and other countries. At first there prevailed what might be named sailor geography. The pupil was compelled to memorize all the capes and headlands, bays and harbors, mouths of rivers, islands, sounds, and straits around the world. He enlivened this to some extent by brief mention of the curiosities and oddities in the way of cataracts, water-gaps, caves, strange animals, public buildings, picturesque costumes, national exaggerations, and such matters as would furnish good themes for sailors' yarns. Little or nothing was taught to give unity to the isolated details furnished in endless number. It was an improvement on this when the method of memorizing capital cities and political boundaries succeeded. With this came the era of map drawing. The study of watersheds and commercial routes, of industrial productions and centers of manufacture and commerce, has been adopted in the better class of schools. Instruction in geography is growing better by the constant introduction of new devices to make plain and intelligible the determining influence of physical causes in producing the elements of difference and the counter-process of industry and commerce by which each difference is rendered of use to the whole world and each locality made a participator in the productions of all.

D. History

The next study, ranked in order of value, for the elementary school is History. But, as will be seen, the value of history, both practically and psychologically, is less in the beginning and greater at the end than geography. For it relates to the institutions of men, and especially to the political state and its evolution. While biography narrates the career of the individual, civil history records the careers of nations. The nation has been compared to the individual by persons interested in the educational value of history. Man has two selves, they say, the individual self, and the collective self of the organized state or nation. The study of history is, then, the study of this larger, corporate, social, and civil self. The importance of this idea is thus brought out more clearly in its educational significance. For to learn this civil self is to learn the substantial condition which makes possible the existence of civilized man in all his other social combinations—the family, the Church, and the manifold associated activities of civil society. For the state protects these combinations from destruction by violence. It defines the limits of individual and associated effort, within which each endeavor re-enforces the endeavors of all, and it uses the strength of the whole nation to prevent such actions as pass beyond these safe limits and tend to collision with the normal action of the other individuals and social units. Hobbes called the state a Leviathan, to emphasize its stupendous individuality and organized self-activity. Without this, he said, man lives in a state of "constant war, fear, poverty, filth, ignorance, and wretchedness; within the state dwell peace, security, riches, science, and happiness." The state is the collective man who "makes possible the rational development of the individual man, like a mortal God, subduing his caprice and passion and compelling obedience to law, developing the ideas of justice, virtue, and religion, creating property and ownership, nurture and education." The education of the child into a knowledge of this higher self begins early within the nurture of the family. The child sees a policeman or some town officer, some public building, a court house or a jail; he sees or hears of an act of violence, a case of robbery or murder followed by arrest of the guilty. The omnipresent higher self, which has been invisible hitherto, now becomes visible to him in its symbols and still more in its acts.

History in school, it is contended, should be the special branch for education in the duties of citizenship. There is ground for this claim. History gives a sense of belonging to a higher social unity which possesses the right of absolute control over person and property in the interest of the safety of the whole. This, of course, is the basis of citizenship; the individual must feel this or see this solidarity of the state and recognize its supreme authority. But history shows the collisions of nations, and the victory of one political ideal accompanied by the defeat of another. History reveals an evolution of forms of government that are better and better adapted to permit individual freedom, and the participation of all citizens in the administration of the government itself.

People who make their own government have a special interest in the spectacle of political evolution as exhibited in history. But it must be admitted that this evolution has not been well presented by popular historians. Take, for instance, the familiar example of old-time pedagogy, wherein the Roman republic was conceived as a freer government than the Roman empire that followed it, by persons apparently misled by the ideas of representative self-government associated with the word *republic*. It was the beginning of a new epoch when this illusion was dispelled, and the college student became aware of the true Roman meaning of *republic*, namely, the supremacy of an oligarchy on the Tiber that ruled distant provinces in Spain, Gaul, Asia Minor, Germany, and Africa, for its selfish ends and with an ever-increasing arrogance. The people at home in Rome, not having a share in the campaigns on the borderland, did not appreciate the qualities of the great leaders who, like Cæsar, subdued the nations by forbearance, magnanimity, trust, and the recognition of a sphere of freedom secured to the conquered by the Roman civil laws, which were rigidly enforced by the conqueror, as much as by the violence of arms. The change from republic to empire meant the final subordination of this tyrannical Roman oligarchy, and the recognition of the rights of the provinces to Roman freedom. This illustration shows how easily a poor teaching of history may pervert its good influence or purpose into a bad one. For the Roman monarchy under the empire secured a degree of freedom never before attained under the republic, in spite of the election of such tyrants as Nero and Caligula to the imperial purple. The civil service went on as usual administering the affairs of distant countries, educating them in Roman jurisprudence, and cultivating a love for accumulating private property. Those countries had before lived communistically after the style of the tribe or at best of the village community. Roman private property in land gave an impulse to the development of free individuality such as had always been impossible under the social stage of development known as the village community.

To teach history properly is to dispel this shallow illusion which flatters individualism, and to open the eyes of the pupil to the true nature of freedom, namely the freedom through obedience to just laws enforced by a strong government.

Your Committee has made this apparent digression for the sake of a more explicit statement of its conviction of the importance of teaching history in a different spirit from that of abstract freedom, which sometimes means anarchy, although they admit the possibility of an opposite extreme, the danger of too little stress on the progressive element in the growth of nations and its manifestation in new and better political devices for representing all citizens without weakening the central power.

That the history of one's own nation is to be taught in the elementary school seems fixed by common consent. United States history includes first a sketch of the epoch of discoveries and next of the epoch of colonization. This fortunately suits the pedagogic requirements. For the child loves to approach the stern realities of a firmly established civilization through its stages of growth by means of individual enterprise. Here is the use of biography as introduction to history. It treats of exceptional individuals whose lives bring them in one way or another into national or even world-historical relations. They throw light on the nature and necessity of governments, and are in turn illuminated by the light thrown back on them by the institutions which they promote or hinder. The era of semi-private adventure with which American history begins is admirably adapted for study by the pupil in the elementary stage of his education. So too the next epoch, that of colonization. The pioneer is a degree nearer to civilization than is the explorer and discoverer. In the colonial history the pupil interests himself in the enterprise of aspiring individualities, in their conquest over obstacles of climate and soil; their conflicts with the aboriginal population; their choice of land for settlement; the growth of their cities; above all, their several attempts and final success in forming a constitution securing local self-government. An epoch of growing interrelation of the colonies succeeds, a tendency to union on a large scale due to the effect of European wars which involved England, France, and other countries, and affected the relations of their colonies in America. This epoch too abounds in heroic personalities, like Wolfe, Montcalm, and Washington, and perilous adventures, especially in the Indian warfare.

The fourth epoch is the Revolution, by which the Colonies through joint effort secured their independence and afterward their union in a nation. The subject grows rapidly more complex and tasks severely the powers of the pupils in the eighth year of the elementary school. The formation of the Constitution, and a brief study of the salient features of the Constitution itself, conclude the study of the portion of the history of the United States that is sufficiently remote to be treated after the manner of an educational classic. Everything up to this point stands out in strong individual outlines and is admirably fitted for that elementary course of study. Beyond this point, the War of 1812 and the War of the Rebellion, together with the political events that led to it, are matters of memory with the present generation of parents and grandparents, and are consequently not so well fitted for intensive study in school as the already classic period of our history. But these later and latest epochs may be and will be read at home not only in the text-book on history used in the schools, but also in the numerous sketches that appear in newspapers, magazines, and in more pretentious shapes. In the intensive study which should be undertaken of the classic period of our history, the pupil may be taught the method appropriate to historical investigation, the many points of view from which each event ought to be considered. He should learn to discriminate between the theatrical show of events and the solid influences that move underneath as ethical causes. Although he is too immature for very far-reaching reflections, he must be helped to see the causal processes of history. Armed with this discipline in historic methods, the pupil will do all of his miscellaneous reading and thinking in this province with more adequate intellectual reaction than was possible before the intensive study carried on in school.

The study of the outlines of the Constitution, for ten or fifteen weeks in the final year of the elementary school, has been found of great educational value. Properly taught, it fixes the idea of the essential threefoldness of the constitution of a free government and the necessary independence of each constituent power, whether legislative, judicial, or executive. This and some idea of the manner and mode of filling the official places in these three departments, and of the character of the duties with which each department is charged, lay foundations for an intelligent citizenship.

Besides this intensive study of the history of the United States in the seventh and eighth years, your Committee would recommend oral lessons on the salient points of general history, taking a full hour of sixty minutes weekly—and preferably all at one time—for the sake of the more systematic treatment of the subject of the lesson and the deeper impression made on the mind of the pupil.

E. Other branches

Your Committee has reviewed the staple branches of the elementary course of study in the light of their educational scope and significance. Grammar, literature, arithmetic, geography, and history are the five branches upon which the disciplinary work of the elementary school is concentrated. Inasmuch as reading is the first of the scholastic arts, it is interesting to note that the whole elementary course may be described as an extension of the process of learning the art of reading. First comes the mastering of the colloquial vocabulary in printed and script forms. Next come five incursions into the special vocabularies required (*a*) in literature to express the fine shades of emotion and the more subtle distinctions of thought, (*b*) the technique of arithmetic, (*c*) of geography, (*d*) of grammar, (*e*) of history.

In the serious work of mastering these several technical vocabularies the pupil is assigned daily tasks that he must prepare by independent study. The class exercise or recitation is taken up with examining and criticising the pupil's oral statements of what he has learned, especial care being taken to secure the pupil's explanation of it in his own words. This requires paraphrases and definitions of the new words and phrases used in technical and literary senses, with a view to insure the addition to the mind of the new ideas corresponding to the new words. The misunderstandings are corrected and the pupil set on the way to use more critical alertness in the preparation of his succeeding lessons. The pupil learns as much by the recitations of his fellow-pupils as he learns from the teacher, but not the same things. He sees in the imperfect statements of his classmates that they apprehended the lesson with different presuppositions and consequently have seen some phases of the subject that escaped his observation, while they in turn have missed points which he had noticed quite readily. These different points of view become more or less his own, and he may be said to grow by adding to his own mind the minds of others.

It is clear that there are other branches of instruction that may lay claim to a place in the course of study of the elementary school; for example the various branches of natural science, vocal music, manual training, physical culture, drawing, etc.

Here the question of another method of instruction is suggested. There are lessons that require previous preparation by the pupil himself—there are also lessons that may be taken up without such preparation and conducted by the teacher, who leads the exercise and furnishes a large part of the information to be learned, enlisting the aid of members of the class for the purpose of bringing home the new material to their actual experience. Besides these there are mechanical exercises for purposes of training, such as drawing, penmanship, and calisthenics.

In the first place there is industrial and æsthetic drawing, which should have a place in all elementary school work. By it is secured the training of the hand and eye. Then, too, drawing helps in all the other branches that require illustration. Moreover, if used in the study of the great works of art in the way hereinbefore mentioned, it helps to cultivate the taste and prepares the future workman for a more useful and lucrative career, inasmuch as superior taste commands higher wages in the finishing of all goods.

Natural science claims a place in the elementary school not so much as a disciplinary study side by side with grammar, arithmetic, and history, as a training in habits of observation and in the use of the technique by which such sciences are expounded. With a knowledge of the technical terms and some training in the methods of original investigation employed in the sciences, the pupil broadens his views of the world and greatly increases his capacity to acquire new knowledge. For the pupil who is unacquainted with the technique of science has to pass without mental profit the numerous scientific allusions and items of information which more and more abound in all our literature, whether of an ephemeral or a permanent character. In an age whose proudest boast is the progress of science in all domains, there should be in the elementary school, from the first, a course in the elements of the sciences. And this is quite possible; for each science possesses some phases that lie very near to the child's life. These familiar topics furnish the doors through which the child enters the various special departments. Science, it is claimed, is nothing if not systematic. Indeed, science itself may be defined as the interpretation of each fact through all other facts of a kindred nature. Admitting that this is so, it is no less true that pedagogic method begins with the fragmentary knowledge possessed by the pupil and proceeds to organize it and build it out systematically in all directions. Hence any science may be taken up best on the side nearest the experience of the pupil and the investigation continued until the other parts are reached. Thus the pedagogical order is not always the logical or scientific order. In this respect it agrees with the order of discovery, which is usually something quite different from the logical order, for that is the last thing discovered. The natural sciences have two general divisions: one relating to inorganic matter, as physics and chemistry, and one relating to organic, as botany and zoölogy. There should be a spiral course in natural science, commencing each branch with the most interesting phases to the child. A first course should be given in botany, zoölogy, and physics, so as to treat of the structure and uses of familiar plants and animals, and the explanation of physical phenomena as seen in the child's playthings, domestic machines, etc. A second course covering the same subjects, but laying more stress on classification and functions, will build on to the knowledge already acquired from the former lessons and from his recently acquired experience. A third course of weekly lessons, conducted by the teacher as before in a conversational style, with experiments and with a comparison of the facts of observation already in the possession of the children, will go far to helping them to an acquisition of the results of natural science. Those of the children specially gifted for observation in some one or more departments of nature will be stimulated and encouraged to make the most of their gifts.

In the opinion of your Committee there should be set apart a full hour each week for drawing and the same amount for oral lessons in natural science.

The oral lessons in history have already been mentioned. The spiral course, found useful in natural science because of the rapid change in capacity of comprehension by the pupil from his sixth to his fourteenth year, will also be best for the history course, which will begin with biographical adventures of interest to the child, and possessing an important historical bearing. These will proceed from the native land first to England, the parent country, and then to the classic civilizations (Greece and Rome being, so to speak, the grandparent countries of the American colonies). These successive courses of oral lessons adapted respectively to the child's capacity will do much to make the child well informed on this topic. Oral lessons should never be mere lectures, but more like Socratic dialogues, building up a systematic knowledge partly from what is already known, partly by new investigations, and partly by comparison of authorities.

The best argument in favor of weekly oral lessons in natural science and general history is the actual experiences of teachers who have for some time used the plan. It has been found that the lessons in botany, zoölogy, and physics give the pupil much aid in learning his geography and other lessons relating to nature, while the history lessons assist very much his comprehension of literature, and add interest to geography.

It is understood by your Committee that the lessons in physiology and hygiene (with special reference to the effects of stimulants and narcotics) required by State laws should be included in this oral course in natural science. Manual training, so far as the theory and use of the tools for working in wood and iron are concerned, has just claims on the elementary school for a reason similar to that which admits natural science. From science have proceeded useful inventions for the aid of all manner of manufactures and transportation. The child of to-day lives in a world where machinery is constantly at his hand. A course of training in wood- and iron-work, together with experimental knowledge of physics or natural philosophy, makes it easy for him to learn the management of such machines. Sewing and cookery have not the same but stronger claims for a place in school. One-half day in each week for one-half a year each in the seventh and eighth grades will suffice for manual training, the sewing and cookery being studied by the girls, and the wood- and iron-work by the boys. It should be mentioned, however, that the advocates of manual training in iron-and wood-work recommend these branches for secondary schools, because of the greater maturity of body, and the less likelihood to acquire wrong habits of manipulation, in the third period of four years of school.

Vocal music has long since obtained a well-established place in all elementary schools. The labors of two generations of special teachers have reduced the steps of instruction to such simplicity that whole classes may make as regular progress in reading music as in reading literature.

In regard to physical culture your Committee is agreed that there should be some form of special daily exercises amounting in the aggregate to one hour each week, the same to include the main features of calisthenics, and German, Swedish, or American systems of physical training, but not to be regarded as a substitute for the old-fashioned recess established to permit the free exercise of the pupils in the open air. Systematic physical training has for its object rather the will training than recreation, and this must not be forgotten. To go from a hard lesson to a series of calisthenic exercises is to go from one kind of will training to another. Exhaustion of the will should be followed by the caprice and wild freedom of the recess. But systematic physical exercise has its sufficient reason in its aid to a graceful use of the limbs, its development of muscles that are left unused or rudimentary unless called forth by special training, and for the help it gives to the teacher in the way of school discipline.

Your Committee would mention in this connection instruction in morals and manners, which ought to be given in a brief series of lessons each year with a view to build up in the mind a theory of the conventionalities of polite and pure-minded society. If these lessons are made too long or too numerous, they are apt to become offensive to the child's mind. It is of course understood by your Committee that the substantial moral training of the school is performed by the discipline rather than by the instruction in ethical theory. The child is trained to be regular and punctual, and to restrain his desire to talk and whisper—in these things gaining self-control day by day. The essence of moral behavior is self-control. The school teaches good behavior. The intercourse of a pupil with his fellows without evil words or violent actions is insisted on and secured. The higher moral qualities of truth-telling and sincerity are taught in every class exercise that lays stress on accuracy of statement.

Your Committee has already discussed the importance of teaching something of algebraic processes in the seventh and eighth grades with the view to obtaining better methods of solving problems in advanced arithmetic; a majority of your Committee are of the opinion that formal English grammar should be discontinued in the eighth year, and the study of some foreign language, preferably that of Latin, substituted. The educational effect on an English-speaking pupil of taking up a language which, like Latin, uses inflections instead of prepositions, and which further differs from English by the order in which its words are arranged in the sentence, is quite marked, and a year of Latin places a pupil by a wide interval out of the range of the pupil who has continued English grammar without taking up Latin. But the effect of the year's study of Latin increases the youth's power of apperception in very many directions by reason of the fact that so much of the English vocabulary used in technical vocabularies, like those of geography, grammar, history, and literature, is from a Latin source, and besides there are so many traces in the form and substance of human learning of the hundreds of years when Latin was the only tongue in which observation and reflection could be expressed.

Your Committee refers to the programme given later in this report for the details of co-ordinating these several branches already recommended.

The difference between elementary and secondary studies

In recommending the introduction of algebraic processes in the seventh and eighth years—as well as in the recommendation just now made to introduce Latin in the eighth year of the elementary course—your Committee has come face to face with the question of the intrinsic difference between elementary and secondary studies.

Custom has placed algebra, geometry, the history of English literature, and Latin in the rank of secondary studies; also general history, physical geography, and the elements of physics and chemistry. In a secondary course of four years trigonometry may be added to the mathematics; some of the sciences whose elements are used in physical geography may be taken up separately in special treatises, as geology, botany, and physiology. There may be also a study of whole works of English authors, as Shakspere, Milton, and Scott. Greek is also begun in the second or third year of the secondary course. This is the custom in most public high schools. But in private secondary schools Latin is begun earlier, and so, too, Greek, algebra, and geometry. Sometimes geometry is taken up before algebra, as is the custom in German schools. These arrangements are based partly on tradition, partly on the requirements of higher institutions for admission, and partly on the ground that the intrinsic difficulties in these studies have fixed their places in the course of study. Of those who claim that there is an intrinsic reason for the selection and order of these studies, some base their conclusions on experience in conducting pupils through them, others on psychological grounds. The latter contend, for example, that algebra deals with general forms of calculation, while arithmetic deals with the particular instances of calculation. Whatever deals with the particular instance is relatively elementary, whatever deals with the general form is relatively secondary. In the expression $a+b=c$ algebra indicates the form of all addition. This arithmetic cannot do, except in the form of a verbal rule describing the steps of the operation: its examples are all special instances falling under the general form given in algebra. If, therefore, arithmetic is an elementary branch, algebra is relatively to it a secondary branch. So, too, geometry, though not directly based on arithmetic, has to presuppose an acquaintance with it when it reduces spatial functions into numerical forms, as, for example, in the measurement of surfaces and solids, and in ascertaining the ratio of the circumference to the radius, and of the hypotenuse to the two other sides of the right-angled triangle. Geometry, moreover, deals with necessary relations; its demonstrations reach universal and necessary conclusions, holding good not merely in such material shapes as we have met with in actual experience, but with all examples possible, past, present, or future. Such knowledge transcending experience is intrinsically secondary as compared with the first acquaintance with geometric shapes in concrete examples.

In the case of geometry it is claimed by some that what is called "inventional geometry" may be properly introduced into the elementary grades. By this some mean the practice with blocks in the shape of geometric solids and the construction of different figures from the same; others mean the rediscovery by the pupil for himself of the necessary relations demonstrated by Euclid. The former—exercises of construction with blocks—are well enough in the kindergarten, where they assist in learning number, as well as in the analysis of material forms. But its educational value is small for pupils advanced into the use of books. The original discovery of Euclid's demonstrations, on the other hand, belongs more properly to higher education than to elementary. In the geometrical text-books recently introduced into secondary schools there is so much of original demonstration required that the teacher is greatly embarrassed on account of the differences in native capacity for mathematics that develop among the pupils of the same class in solving the problems of invention. A few gifted pupils delight in the inventions, and develop rapidly in power, while the majority of the class use too much time over them, and thus rob the other branches of the course of study, or else fall into the bad practice of getting help from others in the preparation of their lessons. A few in every class fall hopelessly behind and are discouraged. The result is an attempt on the part of the teacher to correct the evil by requiring a more thorough training in the mathematical studies preceding, and the consequent delay of secondary pupils in the lower grades of the course in order to bring up their "inventional geometry." Many, discouraged, fail to go on; many more fail to reach higher studies because unable to get over the barrier unnecessarily placed before them by teachers who desire that no pupils except natural geometricians shall enter into higher studies.

Physical geography in its scientific form is very properly made a part of the secondary course of study. The pupil in his ninth year of work can profitably acquire the scientific technique of geology, botany, zoölogy, meteorology, and ethnology, and in the following years take up those sciences separately and push them further, using the method of actual investigation. The subject-matter of physical geography is of very high interest to the pupil who has studied geography in the elementary grades after an approved method. It takes up the proximate grounds and causes for the elements of difference on the earth's surface, already become familiar to him through his elementary studies, and pushes them back into deeper, simpler, and more satisfactory principles. This study performs the work also of correlating the sciences that relate to organic nature by showing their respective uses to man. From the glimpses which the pupil gets of mineralogy, geology, botany, zoölogy, ethnology, and meteorology in their necessary connection as geographic conditions he sees the scope and grand significance of those separate inquiries. A thirst is aroused in him to pursue his researches into their domains. He sees, too, the borderlands in which new discoveries may be made by the enterprising explorer.

Physics, including what was called until recently "natural philosophy," after Newton's *Principia* (*Philosophiæ naturalis principia mathematica*), implies more knowledge of mathematics for its thorough discussion than the secondary pupil is likely to possess. In fact, the study of this branch in college thirty years ago was crippled by the same cause. It should follow the completion of analytical geometry. Notwithstanding this, a very profitable study of this subject may be made in the second year of the high school or preparatory school, although the formulas can then be understood in so far as they imply elementary algebra only. The pupil does not get the most exact notions of the quantitative laws that rule matter in its states of motion and equilibrium, but he does see the action of forces as qualitative elements of phenomena, and understand quite well the mechanical inventions by which men subdue them for his use and safety. Even in the elementary grades the pupil can seize very many of these qualitative aspects and learn the explanation of the mechanical phenomena of nature, and other applications of the same principles in invention, as for example, gravitation in falling bodies: its measurement by the scales; the part it plays in the pump, the barometer, the pendulum; cohesion in mud, clay, glue, paste, mortar, cement, etc.; capillary attraction in lamp-wicks, sponges, sugar, the sap in plants; the applications of lifting by the lever, pulley, inclined plane, wedge, and screw; heat in the sun, combustion, friction, steam, thermometer, conduction, clothing, cooking, etc.: the phenomena of light, electricity, magnetism, and the explanation of such mechanical devices as spectacles, telescopes, microscopes, prisms, photographic cameras, electric tension in bodies, lightning, mariner's compass, horseshoe magnet, the telegraph, the dynamo. This partially qualitative study of forces and mechanical inventions has the educational effect of enlightening the pupil, and emancipating him from the network of superstition that surrounds him in the child world, partly of necessity and partly by reason of the illiterate adults that he sometimes meets with in the persons of nurses, servants, and tradespeople, whose occupations have more attraction for him than those of cultured people. The fairy world is a world of magic, of immediate interventions of supernatural spiritual beings, and while this is proper enough for the child up to the time of the school, and in a lessening degree for some time after, it is only negative and harmful in adult manhood and womanhood. It produces arrested development of powers of observation and reflection in reference to phenomena, and stops the growth of the soul at the infantine stage of development. Neither is this infantine stage of wonder and magic more religious than the stage of disillusion through the study of mathematics and physics. It is the arrest of religious development also, at the stage of fetichism. The highest religion, that of pure Christianity, sees in the world infinite mediations, all for the purpose of developing independent individuality; the perfection of human souls not only in one kind of piety, namely that of the heart, but in the piety of the intellect that beholds truth, the piety of the will that does good deeds wisely, the piety of the senses that sees the beautiful and realizes it in works of art. This is the Christian idea of divine Providence as contrasted with the heathen idea of that Providence, and the study of natural philosophy is an essential educational requisite in its attainment, although a negative means. Of course there is danger of replacing the spiritual idea of the divine by the dynamical or mechanical idea and thus arresting the mind at the stage of pantheism instead of fetichism. But this danger can be avoided by further education through secondary into higher education, whose entire spirit and method are comparative and philosophical in the best sense of the term. For higher education seems to have as its province the correlation of the several branches of human learning in the unity of the spiritual view furnished by religion to our civilization. By it one learns to see each branch, each science or art or discipline, in the light of all the others. This higher or comparative view is essential to any completeness of education, for it alone prevents the one-sidedness of hobbies, or "fads" as they are called in the slang of the day. It prevents also the bad effects that flow from the influence of what are termed "self-educated men," who for the most part carry up with them elementary methods of study, or at best, secondary methods, which accentuate the facts and relations of natural and spiritual phenomena, but do not deal with their higher correlations. The comparative method cannot, in fact, be well introduced until the student is somewhat advanced, and has already completed his elementary course of study dealing with the immediate aspects of the world, and his secondary course dealing with the separate formal and dynamical aspects that lie next in order behind the facts of first observation. Higher education in a measure unifies these separate formal and dynamic aspects, corrects their one-sidedness, and prevents the danger of what is so often noted in the self-educated men who unduly exaggerate some one of the subordinate aspects of the world and make it a sort of first principle.

Here your Committee finds in its way the question of the use of the full scientific method in the teaching of science in the elementary school. The true method has been called the method of investigation, but that method as used by the child is only a sad caricature of the method used by the mature scientific man, who has long since passed through the fragmentary observation and reflection that prevail in the period of childhood, as well as the tendencies to exaggeration of the importance of one or another branch of knowledge at the expense of the higher unity that correlates all; an exaggeration that manifests itself in the possession and use of a hobby. The ideal scientific man has freed himself from obstacles of this kind, whether psychological or objective. What astronomical observers call the subjective coefficient must be ascertained and eliminated from the record that shows beginnings, endings, and rates. There is a possibility of perfect specialization in a scientific observer only after the elementary and secondary attitudes of mind have been outgrown. An attempt to force the child into the full scientific method by specialization would cause an arrest of his development in the other branches of human learning outside of his specialty. He could not properly inventory the data of his own special sphere unless he knew how to recognize the defining limits or boundaries that separate his province from its neighbors. The early days of science abounded in examples of confusion of provinces in the inventories of their data. It is difficult, even now, to decide where physics and chemistry leave off, and biology begins.

Your Committee does not attempt to state the exact proportion in which the child, at his various degrees of advancement, may be able to dispense with the guiding influence of teacher and text-book in his investigations, but they protest strongly against the illusion under which certain zealous advocates of the early introduction of scientific method seem to labor. They ignore in their zeal the deduction that is to be made for the guiding hand of the teacher, who silently furnishes to the child the experience that he lacks, and quietly directs his special attention to this or to that phase, and prevents him from hasty or false generalization as well as from undue exaggeration of single facts or principles. Here the teacher adds the needed scientific outlook which the child lacks, but which the mature scientist possesses for himself.

It is contended by some that the scientific frame of mind is adapted only to science, but not to art, literature, and religion, which have something essential that science does not reach; not because of the incompleteness of the sciences themselves, but because of the attitude of the mind assumed in the observation of nature. In analytic investigation there is isolation of parts one from another, with a view to find the sources of the influences which produce the phenomena shown in the object. The mind brings everything to the test of this idea. Every phenomenon that exists comes from beyond itself, and analysis will be able to trace the source.

Now, this frame of mind, which insists on a foreign origin of all that goes to constitute an object, debars itself in advance from the province of religion, art, and literature as well as of philosophy. For self-determination, personal activity, is the first principle assumed by religion, and it is tacitly assumed by art and literature, Classic and Christian. The very definition of philosophy implies this, for it is the attempt to explain the world by the assumption of a first principle, and to show that all classes of objects imply that principle as ultimate presupposition. According to this view it is important not to attempt to hasten the use of a strictly scientific method on the part of the child. In his first years he is acquiring the results of civilization rather as an outfit of habits, usages, and traditions than as a scientific discovery. He cannot be expected to stand over against the culture of his time, and challenge one and all of its conventionalities to justify themselves before his reason. His reason is too weak. He is rather in the imitation stage of mind than in that of criticism. He will not reach the comparative or critical method until the era of higher education.

However this may be, it is clear that the educational value of science and its method is a very important question, and that on it depends the settlement of the question where specialization may begin. To commence the use of the real scientific method would imply a radical change also in methods from the beginning. This may be realized by considering the hold which even the kindergarten retains upon symbolism and upon art and literature. But in the opinion of a majority of your Committee natural science itself should be approached, in the earliest years of the elementary school, rather in the form of results with glimpses into the methods by which these results were reached. In the last two years (the seventh and eighth) there may be some strictness of scientific form and an exhibition of the method of discovery. The pupil, too, may to some extent put this method in practice himself. In the secondary school there should be some laboratory work. But the pupil cannot be expected to acquire for himself fully the scientific method of dealing with nature until the second part of higher education—its post-graduate work. Nevertheless this good should be kept in view from the first year of the elementary school, and there should be a gradual and continual approach to it.

In the study of general history appears another branch of the secondary course. History of the native land is assumed to be an elementary study. History of the world is certainly a step further away from the experience of the child. It is held by some teachers to be in accordance with proper method to begin with the foreign relations of one's native land and to work outward to the world-history. The European relations involved in the discovery and colonization of America furnish the only explanation to a multitude of questions that the pupil has started in the elementary school. He should move outward from what he has already learned, by the study of a new concentric circle of grounds and reasons, according to this view. This, however, is not the usual course taken. On beginning secondary history the pupil is set back face to face with the period of tradition, just when historic traces first make their appearance. He is by this arrangement broken off from the part of history that he has become acquainted with and made to grapple with that period which has no relation to his previous investigations. It is to be said, however, that general history lays stress on the religious thread of connection, though less now than formerly. The world history is a conception of the great Christian thinker, St. Augustine, who held that the world and its history is a sort of antiphonic hymn in which God reads his counsels, and the earth and man read the responses. He induced Orosius, his pupil, to sketch a general history in the spirit of his view. It was natural that the Old Testament histories, and especially the chapters of Genesis, should furnish the most striking part of its contents. This general history was connected with religion and brought closer to the experience of the individual than the history of his own people. To commence history with the Garden of Eden, the Fall of Man, and the Noachian Deluge was to begin with what was most familiar to all minds, and most instructive, because it concerned most nearly the conduct of life. Thus religion furnished the apperceptive material by which the early portions of history were recognized, classified, and made a part of experience.

Now that studies in archæology, especially those in the Nile and Euphrates valleys, are changing the chronologies and the records of early times and adding new records of the past, bringing to light national movements and collisions of peoples, together with data by which to determine the status of their industrial civilization, their religious ideas, and the form of their literature and art, the concentric arrangement of all this material around the history of the chosen people as a nucleus is no longer possible. The question has arisen, therefore, whether general history should not be rearranged for the secondary school, and made to connect with American history for apperceptive material rather than with Old Testament history. To this it has been replied with force that the idea of a world history, as St. Augustine conceived it, is the noblest educative ideal ever connected with the subject of history. Future versions of general history will not desert this standpoint, we are told, even if they take as their basis that of ethnology and anthropology, for these, too, will exhibit a plan in human history—an educative principle that leads nations toward freedom and science, because the Creator of nature has made it, in its fundamental constitution, an evolution or progressive development of individuality. Thus the idea of divine Providence is retained, though made more comprehensive by bringing the whole content of natural laws within his will as his method of work.

These considerations, we are reminded by the partisans of humanity studies, point back to the educative value of history as corrective of the one-sidedness of the method of science. Science seeks explanation in the mechanical conditions of, and impulses received from, the environment, while history keeps its gaze fixed on human purposes, and studies the genesis of national actions through the previous stages of feelings, convictions, and conscious ideas. In history the pupil has for his object self-activity, reaction against environment, instead of mechanism, or activity through another.

The history of English literature is another study of the secondary school. It is very properly placed beyond the elementary school, for as taught it consists largely of the biographies of men of letters. The pupils who have not yet learned any great work of literature should not be pestered with literary biography, for at that stage the greatness of the men of letters cannot be seen. Plutarch makes great biographies because he shows heroic struggles and great deeds. The heroism of artists and poets consists in sacrificing all for the sake of their creations. The majority of them come off sadly at the hands of the biographer, for the reason that the very sides of their lives are described which they had slighted and neglected for the sake of the Muses. The prophets of Israel did not live in city palaces, but in caves; they did not wear fine raiment, nor feed sumptuously, nor conform to the codes of polite society. They were no courtiers when they approached the king. They neglected all the other institutions—family, productive industry, and state—for the sake of one, the Church, and even that not the established ceremonial of the people, but a higher and more direct communing with Jehovah. So with artists and men of letters it is more or less the case that the institutional side of their lives is neglected, or unsymmetrical, or if this is not the case it will be found prosaic and uneventful, throwing no light on their matchless productions.

For these reasons should not the present use of literary biography as it exists in secondary schools, and is gradually making its way into elementary schools, be discouraged, and the time now given to it devoted to the study of literary works of art? It will be admitted that the exposure of the foibles of artists has an immoral tendency on youth: for example, one affects to be a poet, and justifies laxity and self-indulgence through the example of Byron. Those who support this view hold that we should not dignify the immoral and defective side of life by making it a branch of study in school.

Correlation by synthesis of studies

Your Committee would mention another sense in which the expression correlation of studies is sometimes used. It is held by advocates of an artificial center of the course of study. They use, for example, De Foe's Robinson Crusoe for a reading exercise, and connect with it the lessons in geography and arithmetic. It has been pointed out by critics of this method that there is always danger of covering up the literary features of the reading matter under accessories of mathematics and natural science. If the material for other branches is to be sought for in connection with the literary exercise, it will distract the attention from the poetic unity. On the other hand, arithmetic and geography cannot be unfolded freely and comprehensively if they are to wait on the opportunities afforded in a poem or novel for their development. A correlation of this kind, instead of being a deeper correlation such as is found in all parts of human learning by the studies of the college and university, is rather a shallow and uninteresting kind of correlation that reminds one of the system of mnemonics, or artificial memory, which neglects the association of facts and events with their causes and the history of their evolution, and looks for unessential quips, puns, or accidental suggestions with a view to strengthening the memory. The effect of this is to weaken the power of systematic thinking which deals with essential relations, and substitute for it a chaotic memory that ties together things through false and seeming relations, not of the things and events, but of the words that denote them.

The correlation of geography and arithmetic and history in and through the unity of a work of fiction is at best an artificial correlation, which will stand in the way of the true objective correlation. It is a temporary scaffolding made for school purposes. Instruction should avoid such temporary structures as much as possible, and when used they should be only used for the day, and not for the year, because of the danger of building up an apperceptive center in the child's mind that will not harmonize with the true apperceptive center required by the civilization. The story of Robinson Crusoe has intense interest to the child as a lesson in sociology, showing him the helplessness of isolated man and the re-enforcement that comes to him through society. It shows the importance of the division of labor. All children should read this book in the later years of the elementary course, and a few profitable discussions may be had in school regarding its significance. But De Foe painted in it only the side of adventure that he found in his countrymen in his epoch, England after the defeat of the Armada having taken up a career of conquest on the seas, ending by colonization and a world commerce. The liking for adventure continues to this day among all Anglo-Saxon peoples, and beyond other nationalities there is in English-speaking populations a delight in building up civilization from the very foundation. This is only, however, one phase of the Anglo-Saxon mind. Consequently the history of Crusoe is not a proper center for a year's study in school. It omits cities, governments, the world commerce, the international process, the Church, the newspaper and book from view, and they are not even reflected in it.

Your Committee would call attention in this connection to the importance of the pedagogical principle of analysis and isolation as preceding synthesis and correlation. There should be rigid isolation of the elements of each branch for the purpose of getting a clear conception of what is individual and peculiar in a special province of learning. Otherwise one will not gain from each its special contribution to the whole. That there is some danger from the kind of correlation that essays to teach all branches in each will be apparent from this point of view.

III. THE SCHOOL PROGRAMME

In order to find a place in the elementary school for the several branches recommended in this report, it will be necessary to use economically the time allotted for the school term, which is about two hundred days, exclusive of vacations and holidays. Five days per week and five hours of actual school work or a little less per day, after excluding recesses for recreation, give about twenty-five hours per week. There should be, as far as possible, alternation of study-hours and recitations (the word recitation being used in the United States for class exercise or lesson conducted by the teacher and requiring the critical attention of the entire class). Those studies requiring the clearest thought should be taken up, as a usual thing, in the morning session, say arithmetic the second half hour of the morning and grammar the half-hour next succeeding the morning recess for recreation in the open air. By some who are anxious to prevent study at home, or at least to control its amount, it is thought advisable to place the arithmetic lesson after the grammar lesson, so that the study learned at home will be grammar instead of arithmetic. It is found by experience that if mathematical problems are taken home for solution two bad habits arise, namely, in one case, the pupil gets assistance from his parents or others, and thereby loses to some extent his own power of overcoming difficulties by brave and persistent attacks unaided by others; the other evil is a habit of consuming long hours in the preparation of a lesson that should be prepared in thirty minutes, if all the powers of mind are fresh and at command. An average child may spend three hours in the preparation of an arithmetic lesson. Indeed, in repeated efforts to solve one of the so-called "conundrums," a whole family may spend the entire evening. One of the unpleasant results of the next day is that the teacher who conducts the lesson never knows the exact capacity and rate of progress of his pupils; in the recitation he probes the knowledge and preparation of the pupil, plus an unknown amount of preparatory work borrowed from parents and others. He even increases the length of the lessons, and requires more work at home, when the amount already exceeds the unaided capacity of the pupil.

The lessons should be arranged so as to bring in such exercises as furnish relief from intellectual tension between others that make large demands on the thinking powers. Such exercises as singing and calisthenics, writing and drawing, also reading, are of the nature of a relief from those recitations that tax the memory, critical alertness, and introspection, like arithmetic, grammar, and history.

Your Committee has not been able to agree on the question whether pupils who leave school early should have a course of study different from the course of those who are to continue on into secondary and higher work. It is contended, on the one hand, that those who leave early should have a more practical course, and that they should dispense with those studies that seem to be in the nature of preparatory work for secondary and higher education. Such studies as algebra and Latin, for example, should not be taken up unless the pupil expects to pursue the same for a sufficient time to complete the secondary course. It is replied, on the other hand, that it is best to have one course for all, because any school education is at best but an initiation for the pupil into the art of learning, and that wherever he leaves off in his school course he should continue, by the aid of the public library and home study, in the work of mastering science and literature. It is further contended that a brief course in higher studies, like Latin and algebra, instead of being useless, is of more value than any elementary studies that might replace them. The first ten lessons in algebra give the pupil the fundamental idea of the general expression of arithmetical solutions by means of letters and other symbols. Six months' study of it gives him the power to use the method in stating the manifold conditions of a problem in partnership, or in ascertaining a value that depends on several transformations of the data given. It is claimed, indeed, that the first few lessons in any branch are relatively of more educational value than an equal number of subsequent lessons, because the fundamental ideas and principles of the new study are placed at the beginning. In Latin, for instance, the pupil learns in his first week's study the to him strange phenomenon of a language that performs by inflections what his own language performs by the use of prepositions and auxiliaries. He is still more surprised to find that the order of words in a sentence is altogether different in Roman usage from that to which he is accustomed. He further begins to recognize in the Latin words many roots or stems which are employed to denote immediate sensuous objects, while they have been adopted into his English tongue to signify fine shades of distinction in thought or feeling. By these three things his powers of observation in matters of language are armed, as it were, with new faculties. Nothing that he has hitherto learned in grammar is so radical and far-reaching as what he learns in his first week's study of Latin. The Latin arrangement of words in a sentence indicates a different order of mental arrangement in the process of apprehension and expression of thought. This arrangement is rendered possible by declensions. This amounts to attaching prepositions to the ends of the words, which they thus convert into adjectival or adverbial modifiers; whereas the separate prepositions of the English must indicate by their position in the sentence their grammatical relation. These observations, and the new insight into the etymology of English words having a Latin derivation, are of the nature of mental seeds which will grow and bear fruit throughout life in the better command of one's native tongue. All this will come from a very brief time devoted to Latin in school.

Amount of time for each branch

Your Committee recommends that an hour of sixty minutes each week be assigned in the programme for each of the following subjects throughout the eight years: physical culture, vocal music, oral lessons in natural science (hygiene to be included among the topics under this head), oral lessons in biography and general history, and that the same amount of time each week shall be devoted to drawing from the second year to the eighth inclusive; to manual training during the seventh and eighth years so as to include sewing and cookery for the girls, and work in wood and iron for the boys.

Your Committee recommends that reading be given at least one lesson each day for the entire eight years, it being understood, however, that there shall be two or more lessons each day in reading in the first and second years, in which the recitation is necessarily very short, because of the inability of the pupil to give continued close attention, and because he has little power of applying himself to the work of preparing lessons by himself. In the first three years the reading should be limited to pieces in the colloquial style, but selections from the classics of the language in prose and in poetry shall be read to the pupil from time to time, and discussions made of such features of the selections read as may interest the pupils. After the third year your Committee believes that the reading lesson should be given to selections from classic authors of English, and that the work of the recitation should be divided between (*a*) the elocution, (*b*) the grammatical peculiarities of the language, including spelling, definitions, syntactical construction, punctuation, and figures of prosody, and (*c*) the literary contents, including the main and accessory ideas, the emotions painted, the deeds described, the devices of style to produce a strong impression on the reader. Your Committee wishes to lay emphasis on the importance of the last item,—that of literary study,—which should consume more and more of the time of the recitation from grade to grade in the period from the fourth to the eighth year. In the fourth year and previously the first item—that of elocution, to secure distinct enunciation and correct pronunciation—should be most prominent. In the fifth and sixth years the second item—that of spelling, defining, and punctuation—should predominate slightly over the other two items. In the years from the fifth to the eighth there should be some reading of entire stories, such as Gulliver's Travels, Robinson Crusoe, Rip Van Winkle, The Lady of the Lake, Hiawatha, and similar stories adapted in style and subject-matter to the capacity of the pupils. An hour should be devoted each week to conversations on the salient points of the story, its literary and ethical bearings.

Your Committee agrees in the opinion that in teaching language care should be taken that the pupil practices much in writing exercises and original compositions. At first the pupil will use only his colloquial vocabulary, but as he gains command of the technical vocabularies of geography, arithmetic, and history, and learns the higher literary vocabulary of his language, he will extend his use of words accordingly. Daily from the first year the child will prepare some lesson or portion of a lesson in writing. Your Committee has included under the head of oral grammar (from the first to the middle of the fifth year) one phase of this written work devoted to the study of the literary form and the technicalities of composition in such exercises as letter writing, written reviews of the several branches studied, reports of the oral lessons in natural science and history, paraphrases of the poems and prose literature of the readers, and finally compositions or written essays on suitable themes assigned by the teacher, but selected from the fields of knowledge studied in school. Care should be taken to criticise all paraphrases of poetry in respect to the good or bad taste shown in the choice of words; parodies should never be permitted.

It is thought by your Committee that the old style of composition writing was too formal. It was kept too far away from the other work of the pupil. Instead of giving a written account of what he had learned in arithmetic, geography, grammar, history, and natural science, the pupil attempted artificial descriptions and reflections on such subjects as "Spring," "Happiness," "Perseverance," "Friendship," or something else outside of the line of his school studies.

Your Committee has already expressed its opinion that a good English style is not to be acquired by the study of grammar so much as by familiarity with great masterpieces of literature. We especially recommend that pupils who have taken up the fourth and fifth readers, containing the selections from great authors, should often be required to make written paraphrases of prose or poetic models of style, using their own vocabulary to express the thoughts so far as possible, and borrowing the *recherché* words and phrases of the author, where their own resources fail them. In this way the pupil learns to see what the great author has done to enrich the language and to furnish adequate means of expression for what could not be presented in words before, or at least not in so happy a manner.

Your Committee believes that every recitation is, in one aspect of it, an attempt to express the thoughts and information of the lesson in the pupil's own words, and thus an initial exercise in composition. The regular weekly written review of the important topics in the several branches studied is a more elaborate exercise in composition, the pupil endeavoring to collect what he knows and to state it systematically and in proper language. The punctuation, spelling, syntax, penmanship, choice of words, and style should not, it is true, be made a matter of criticism in connection with the other lessons, but only in the language lesson proper. But the pupil will learn language, all the same, by the written and oral recitations. The oral grammar lessons from the first year to the middle of the fifth year, should deal chiefly with the use of language, gradually introducing the grammatical technique as it is needed to describe accurately the correct forms and the usages violated.

Your Committee believes that there is some danger of wasting the time of the pupil in these oral and written language lessons in the first four years by confining the work of the pupil to the expression of ordinary commonplace ideas not related to the subjects of his other lessons, especially when the expression is confined to the colloquial vocabulary. Such training has been severely and justly condemned as teaching what is called prating or gabbling, rather than a noble use of

English speech. It is clear that the pupil should have a dignified and worthy subject of composition, and what is so good for his purpose as the themes he has tried to master in his regular lessons? The reading lessons will give matter for literary style, the geography for scientific style, and the arithmetic for a business style; for all styles should be learned.

Your Committee recommends that selected lists of words difficult to spell be made from the reading lessons and mastered by frequent writing and oral spelling during the fourth, fifth, and sixth years.

Your Committee recommends that the use of a text-book in grammar begin with the second half of the fifth year, and continue until the beginning of the study of Latin in the eighth grade, and that one daily lesson of twenty-five or thirty minutes be devoted to it.

For Latin we recommend one daily lesson of thirty minutes for the eighth year. For arithmetic we recommend number work from the first year to the eighth, one lesson each day, but the use of the text-book in number should not, in our opinion, begin until the first quarter of the third year. We recommend that the applications of elementary algebra to arithmetic, as hereinbefore explained, be substituted for pure arithmetic in the seventh and eighth years, a daily lesson being given.

Your Committee recommends that penmanship as a separate branch be taught in the first six years at least three lessons per week.

Geography, in the opinion of your Committee, should begin with oral lessons in the second year, and with a text-book in the third quarter of the third year, and be continued to the close of the sixth year with one lesson each day, and in the seventh and eighth years with three lessons per week.

History of the United States with the use of a text-book, your Committee recommends for the seventh and the first half of the eighth year, one lesson each day; the Constitution of the United States for the third quarter of the eighth year.

The following schedule will show the number of lessons per week for each quarter of each year:

Reading. Eight years, with daily lessons.
Penmanship. Six years, ten lessons per week for first two years, five for third and fourth, and three for fifth and sixth.
Spelling Lists. Fourth, fifth, and sixth years, four lessons per week.
Grammar. Oral, with composition or dictation, first year to middle of fifth year, text-book from middle of fifth year to close of seventh year, five lessons per week. (Composition writing should be included under this head. But the written examinations on the several branches should be counted under the head of composition work.)
Latin or French or German. Eighth year, five lessons per week.
Arithmetic. Oral first and second year, text-book third to sixth year, five lessons per week.
Algebra. Seventh and eighth year, five lessons per week.
Geography. Oral lessons second year to middle of third year, text-book from middle of third year, five lessons weekly to seventh year, and three lessons to close of eighth.
Natural Science and Hygiene. Sixty minutes per week, eight years.
History of United States. Five hours per week seventh year and first half of eighth year.
Constitution of United States. Third quarter in the eighth year.
General History and Biography. Oral lessons, sixty minutes a week, eight years.
Physical Culture. Sixty minutes a week, eight years.
Vocal Music. Sixty minutes a week, eight years.
Drawing. Sixty minutes a week, eight years.
Manual Training, Sewing and Cooking. One-half day each week in seventh and eighth years.

Your Committee recommends recitations of fifteen minutes in length in the first and second years, of twenty minutes in length in the third and fourth years, of twenty-five minutes in the fifth and sixth years, and of thirty minutes in the seventh and eighth.

The results of this programme show for the first and second years twenty lessons a week of fifteen minutes each, besides seven other exercises occupying an average of twelve minutes apiece each day; the total amount of time occupied in the continuous attention of the recitation or class exercises being twelve hours, or an average of two hours and twenty-four minutes per day.

For the third year twenty lessons a week of twenty minutes each, and five general exercises taking up five hours a week or an average of one hour per day, giving an average time per day of two hours and twenty minutes for class recitations or exercises.

In the fourth the recitations increase to twenty-four (by reason of four extra lessons in spelling) and the time occupied in recitations and exercises to thirteen hours and an average per day of two hours thirty-six minutes.

BRANCHES	*1st year*	*2d year*	*3d year*	*4th year*	*5th year*	*6th year*	*7th year*	*8th year*
Reading.......	10 lessons a week		5 lessons a week					
Writing.......	10 lessons a week		5 lessons a week		3 lessons a week			
Spelling lists...				4 lessons a week				
English Grammar	Oral, with composition lessons				5 lessons a week with text-book			
Latin..........								5 lessons
Arithmetic....	Oral, 60 minutes a week		5 lessons a week with text-book					
Algebra.......							5 lessons a week	
Geography.....	Oral, 60 minutes a week		* 5 lessons a week with text-book				3 lessons a week	
Natural Science + Hygiene.	Sixty minutes a week							
U. S. History..							5 lessons a week	
U. S. Constitution								* 5 les.
General History	Oral, sixty minutes a week							
Physical Culture	Sixty minutes a week							
Vocal Music...	Sixty minutes a week divided into 4 lessons							
Drawing......	Sixty minutes a week							
Manual Train. or Sewing + Cookery.							One-half day each	
No. of Lessons	20+7 daily exer.	20+7 daily exer.	20+5 daily exer.	24+5 daily exer.	27+5 daily exer.	27+5 daily exer.	23+6 daily exer.	23+6 daily exer.
Total Hours of Recitations	12	12	11⅔	13	16¼	16¼	17½	17½
Length of Recitations	15 min.	15 min.	20 min.	20 min.	25 min.	25 min.	30 min.	30 min.

* Begins in second half year

In the fifth and sixth years the number of recitations increases to twenty-seven per week, owing to the addition of formal grammar, and the total number of hours required for all is 16¼ per week, or an average of 3¼ per day.

In the seventh and eighth years the number of lessons decreases to twenty-three, history being added, penmanship and special lessons in spelling discontinued, the time devoted to geography reduced to three lessons a week. But the recitation is increased to thirty minutes in length. Manual training occupies a half-day, or 2½ hours, each week. The total is 19 hours per week or 3¾ per day.

The foregoing tabular exhibit shows all of these particulars.

IV. METHODS AND ORGANIZATION

Your Committee is agreed that the time devoted to the elementary school work should not be reduced from eight years, but they have recommended, as hereinbefore stated, that in the seventh and eighth years a modified form of algebra be introduced in place of advanced arithmetic, and that in the eighth year English grammar yield place to Latin. This makes, in their opinion, a proper transition to the studies of the secondary school and is calculated to assist the pupil materially in his preparation for that work. Hitherto, the change from the work of the elementary school has been too abrupt, the pupil beginning three formal studies at once, namely algebra, physical geography, and Latin.

Your Committee has found it necessary to discuss the question of methods of teaching in numerous instances, while considering the question of educational values and programmes, because the value and time of beginning of the several branches depends so largely on the method of teaching.

The following recommendations, however, remain for this part of their report:

They would recommend that the specialization of teachers' work should not be attempted before the seventh or eighth year of the elementary school and in not more than one or two studies then. In the secondary school it is expected that a teacher will teach one or at most two branches. In the elementary school, for at least six years, it is better, on the whole, to have each teacher instruct his pupils in all the branches that they study, for the reason that only in this way can he hold an even pressure on the requirements of work, correlating it in such a manner that no one study absorbs undue attention. In this way the pupils prepare all their lessons under the direct supervision of the same teacher, and by their recitations show what defects of methods of study there have been in the preparation.

The ethical training is much more successful under this plan, because the personal influence of a teacher is much greater when he or she knows minutely the entire scope of the school work. In the case of the special teacher the responsibility is divided and the opportunities of special aquaintance with character and habits diminished.

With one teacher, who supervises the study and hears all the recitations, there is a much better opportunity to cultivate the two kinds of attention. The teacher divides his pupils into two classes and hears one recite while the other class prepares for the next lesson. The pupils reciting are required to pay strict attention to the one of their number who is explaining the point assigned him by the teacher—they are to be on the alert to notice any mistakes of statement or omissions of important data, they are at the same time to pay close attention to the remarks of the teacher. This is one kind of attention, which may be called associated critical attention. The pupils engaged in the preparation of the next lesson are busy, each one by himself, studying the book and mastering its facts and ideas, and comparing them one with another, and making the effort to become oblivious of their fellow-pupils, the recitation going on, and the teacher. This is another kind of attention, which is not associated, but an individual effort to master for one's self without aid a prescribed task and to resist all distracting influences. These two disciplines in attention are the best formal training that the school affords.

Your Committee has already mentioned a species of faulty correlation wherein the attempt is made to study all branches in each, misapplying Jacotot's maxim, "all is in all" (*tout est dans tout*).

A frequent error of this kind is the practice of making every recitation a language lesson, and interrupting the arithmetic, geography, history, literature, or whatever it may be, by calling the pupil's attention abruptly to something in his forms of expression, his pronunciation, or to some faulty use of English; thus turning the entire system of school work into a series of grammar exercises and weakening the power of continuous thought on the objective contents of the several branches, by creating a pernicious habit of self-consciousness in the matter of verbal expression. While your Committee would not venture to say that there should not be some degree of attention to the verbal expression in all lessons, it is of the opinion that it should be limited to criticism of the recitation for its want of technical accuracy. The technical words in each branch should be discussed until the pupil is familiar with their full force. The faulty English should be criticised as showing confusion of thought or memory, and should be corrected in this sense. But solecisms of speech should be silently noted by the teacher for discussion in the regular language lesson.

The question of promotion of pupils has occupied from time to time very much attention. Your Committee believes that in many systems of elementary schools, there is injury done by too much formality in ascertaining whether the pupils of a given class have completed the work up to a given arbitrarily fixed point, and are ready to take up the next apportionment of the work. In the early days of city school systems, when the office of superintendent was first created, it was thought necessary to divide up the graded course of study into years of work, and to hold stated annual examinations to ascertain how many pupils could be promoted to the next grade or year's work. All that failed at this examination were set back at the beginning of the year's work to spend another year in reviewing it. This was to meet the convenience of the superintendent who, it was said, could not hold examinations to suit the wants of individuals or particular classes. From this arrangement there naturally resulted a great deal of what is called "marking time." Pupils who had nearly completed the work of the year were placed with pupils who had been till now a year's interval below them. Discouragement and demoralization at the thought of taking up again a course of lessons learned once before caused many pupils to leave school prematurely. This evil has been remedied in nearly one-half of the cities by promoting pupils whenever they have completed the work of a grade. The constant tendency of classification to become imperfect by reason of the difference in rates of advancement of the several pupils, owing to disparity in ages, degree of maturity, temperament, and health, makes frequent reclassification necessary. This is easily accomplished by promoting the few pupils who distance the majority of their classmates into the next class above, separated as it is or ought to be, by an interval of less than half a year. The bright pupils thus promoted have to struggle to make up the ground covered in the interval between the two classes, but they are nearly always able to accomplish this, and generally will in two years' time need another promotion from class to class.

The procrustean character of the old city systems has been removed by this device.

There remain for mention some other evils besides bad systems of promotion due to defects of organization. The school buildings are often with superstitious care kept apart exclusively for particular grades of pupils. The central building erected for high school purposes, though only half filled, is not made to relieve the neighboring grammar school, crowded to such a degree that it cannot receive the classes which ought to be promoted from the primary schools. It has happened in such cases that this superstition prevailed so far that the pupils in the primary school building were kept at work on studies already finished, because they could not be transferred to the grammar school.

In all good school systems the pupils take up new work when they have completed the old, and the bright pupils are transferred to higher classes when they have so far distanced their fellows that the amount of work fixed for the average ability of the class does not give them enough to do.

In conclusion your Committee would state, by way of explanation, that it has been led into many digressions, in illustrating the details of its recommendations in this report, through its desire to make clear the grounds on which it has based its conclusions and through the hope that such details will call out a still more thorough-going discussion of the educational values of branches proposed for elementary schools, and of the methods by which those branches may be successfully taught.

With a view to increase the interest in this subject your Committee recommends the publication of selected passages from the papers sent in by invited auxiliary committees and by volunteers, many of these containing valuable suggestions not mentioned in this report.

William T. Harris, *Chairman*

United States Commissioner of Education, Washington, D. C.

I dissent from the majority report of the Committee in regard to the following points:

Arithmetic

1. As to fractions: In teaching arithmetic there does not exist any greater difficulty in getting small children to grasp the nature of the fraction as such than in getting them to grasp the idea of the simpler whole numbers. It is true that the fractions ½, ⅓, ¼, etc., as symbols, are a little more complex than are the single digits; but as to the real meaning, when once the fractional idea has been properly developed by the teacher and the significance of the idea apprehended by the pupil, it is as easily understood as any other simple truth. Children get the idea of *half*, *third*, or *quarter* of many things long before they enter school, and they will as readily learn to add, subtract, multiply, and divide fractions as they will whole numbers. In using fractions they will draw diagrams and pictures representing the processes of work as quickly and easily as they illustrate similar work with integers. It is of course assumed that the teacher knows how to teach arithmetic to children, or rather, how to teach the children how to teach themselves. There is really no valid argument why children in the second, third, and fourth years in school should not master the fundamental operations in fractions. Not only this, they will put the more common fractions into the technique of percentage, and do this as well in the second and third grades as at any other time in their future progress. There is only one new idea involved in this operation, and that consists in giving an additional term—per cent.—to the fractional symbol. When one number is a part of another, it may be regarded as a fractional part or as such a per cent. of it. A great deal of percentage is thus learned by the pupils early in the course. Children are not hurt by learning. Standing still and lost motion kill.

Every recitation should reach the full swing of the learner's mind, including all his acquisitions on any given topic. But if the teaching of fractions be deferred, as it usually is in most schools, the time may be materially shortened by teaching addition and subtraction of fractions together. This is simple enough if different fractions having common denominators are used at first, such as $\frac{6}{2} + \frac{5}{2} = ?$, and $\frac{6}{2} - \frac{5}{2} = ?$ Then the next step, after sufficient drill on this case, is to take two fractions (simple) of different units of value, as $1/2 + 1/3 = ?$, and $1/2 - 1/3 = ?$ Multiplication and division may be treated similarly.

In decimals, the pupil is really confronted by a simpler form of fractions than the varied forms of common fractions.

Devices and illustrations of a material kind are necessary to build up in the pupil's mind at the beginning a clear concept of a tenth, etc., etc., and then to show that *one-tenth* written as a decimal is only a shorthand way of writing $\frac{1}{10}$ as a common fraction, and so on. He sees very soon that the decimal is only a shorthand common fraction, and this notion he must hold to. This is the vital point in decimals. The idea that they can be changed into common fractions and the reverse at will, establishes the fact in the pupil's mind that they are common fractions and not uncommon ones. Fixing the decimal point will, in a short time, take care of itself.

In teaching arithmetic the steps are: (1) developing the subject till each pupil gets a clear conception of it; (2) necessary drill to fix the process; (3) connecting the subject with all that has preceded it; (4) its applications; (5) the pupil's ability to sum up clearly and concisely what he has learned.

2. *As to abridgment:* Under this head, I hold that a course in arithmetic, including simple numbers, fractions, tables of weights and measures, percentage and interest, and numerical operations in powers, does not fit a pupil to begin the study of algebra. That while he may carry the book under his arm to the schoolroom, he is too poorly equipped to make headway on this subject, and instead of finishing up algebra in a reasonable length of time he is kept too long at it, with a strong probability of his becoming disgusted with it.

There are subjects, however, in the common school arithmetic that may be dropped out with great advantage, to wit, all but the simplest exercises in compound interest, foreign exchange, all foreign moneys (except reference tables of values), annuities, alligation, progression; and the entire subjects of percentage and interest should be condensed into about twenty pages.

Cancellation, factoring, proportion, evolution, and involution should be retained. Cancellation and factoring should be strongly emphasized owing to their immense value in shortening work in arithmetic, algebra, and in more advanced subjects. Some drill in the Metric System should not be omitted.

3. *As to mental arithmetic:* Till the end of the fourth year the pupil does not need a text-book of mental arithmetic. So far his work in arithmetic should be about equally divided between written and mental. At the beginning of the fifth year, in addition to his written arithmetic, he should begin a

mental arithmetic and continue it three years, reciting at least four mental arithmetic lessons each week. The length of the recitation should be twenty minutes. A pupil well drilled in mental arithmetic at the end of the seventh year, if the school age begins at six, is far better prepared to study algebra than the one who has not had such a drill. There are a few problems in arithmetic that can be solved more easily by algebra than by the ordinary processes of arithmetic, but there are many numerical problems in equations of the first degree that can be more easily handled by mental arithmetic than by algebra. To attack arithmetical problems by algebra is very much like using a tremendous lever to lift a feather. Those who have found a great stumbling-block in arithmetical "conundrums," have, if the inside facts were known, been looking in the wrong direction. A deficiency of "number-brain-cells" will afford an adequate explanation.

4. Rearrangement of subjects: There should be a rearranging of the topics in arithmetic so that one subject naturally leads up to the next. As an illustration, it is easily seen that whole numbers and fractions can be treated together, and that with United States money, when the *dime* is reached, is the proper time to begin decimals, and that when "a square" in surface measure first comes up, the next step is the *square* of a number as well as its *square root*, and that solid measure logically lands the learner among cubes and cube-roots. When he learns that 1728 cubic inches make one cubic foot he is prepared to find the edge of the cube. What is meant here is pointing the way to the next above. All depends upon the teacher's ability to lead the pupil to see conditions and relations. My contention is that truth, so far as one is capable of taking hold of it when it is properly presented, is always a simple affair.

5. As to algebra: If algebra be commenced at the middle of the seventh year, let the pupil go at it in earnest, and keep at it till he has mastered it. Here the best opportunities will be afforded him to connect his algebraic knowledge to his arithmetical knowledge. He builds the one on top of the other.

The skillful teacher always insists that the learner shall establish and maintain this relationship between the two subjects. To switch around the other way appears to me to be the same as to omit certain exercises in the common algebra, because they are more briefly and elegantly treated in the calculus. It is admitted that a higher branch of mathematics often throws much light on the lower branches, but these side-lights should be employed for the purpose of leading the learner onward to broader generalizations. Unless one sees the lower clearly, the higher is obscure. Build solidly the foundation on arithmetic—written and mental—and the higher branches will be more easily mastered and time saved.

History of the United States

In teaching this branch in the public schools, there does not appear, so far as I can see, any substantial reason why the pupils should not study and recite the history of the Rebellion in the same manner that they do the Revolutionary War. The pupils discuss the late war and the causes that led to it with an impartiality of feeling that speaks more for their good sense and clear judgment than any other way by which their knowledge can be tested. They may not get hold of all the causes involved in that conflict, but they get enough to understand the motives which caused the armies to fight so heroically, and why the people, both North and South, staked everything on the issue. Just as the men who faced each other for four years and met so often in a death grapple will sit down now and quietly talk over their trials, sufferings, and conflicts, so do their children talk over these same stirring scenes. They, too, so far as my experience extends, are singularly free from bitterness and prejudice. It is certainly a period of history that they should study.

The spelling-book

In addition to the "spelling-lists," I would supplement with a good spelling-book. So far, no "word-list," however well selected, has supplied the place of a spelling-book. All those schools that threw out the spelling-book and undertook to teach spelling incidentally or by word-lists failed, and for the same reason that grammar, arithmetic, geography, and other branches, cannot be taught incidentally as the pupil or the class reads Robinson Crusoe, or any other similar work. It is an independent study and as such should be pursued.

JAMES M. GREENWOOD,
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While affixing my signature to the report of this Committee as expressing substantial agreement with most of its leading propositions, I beg leave also to indicate my dissent from certain of its recommendations and to suggest certain additions which, in my judgment, the report requires.

1. There are other forms of true correlation which should be included with the four mentioned in the first part of the report and which should be as clearly and fully treated as are these four.

The first is that form of correlation which is popularly understood by the name, and which is also called by some writers, concentration, co-ordination, unification, and alludes in general to a division of studies into content and form ; by content meaning that upon which it is fitting that the mind of the child should dwell, and by form the means or modes of expression by which thoughts are communicated. Or, it may be thus expressed : The true content of education is, (1), philosophy or the knowledge of man as to his motives and hidden springs of action indicated in history and literature, and (2), science, the knowledge of nature and its manifestations and laws. Its form is art, which is the deliberate, purposeful, and effective expression to others of that which has been produced within man by contact with other men and with nature, and is commonly referred to as divided into various arts, such as reading, writing, drawing, making, and modeling. The relation of content and form is that of principle and subordinate, the latter receiving its chief value from the former. In a true education they are so presented to the mind of the child that he instinctively and unconsciously grasps this relation and is thereby lifted into a higher plane of thinking and living than if the various arts are taught, as they too commonly are, without reference to a noble content. This relation of form to content is vaguely referred to in the report, but nowhere definitely treated. It seems to me that it is a true form of correlation, and, as such, deserves special and definite treatment. Moreover, it is at present much in the minds of the teachers of this country, often in forms that are misleading and harmful. The fact that it adds the important element of interest to the dry details of common school life makes it especially attractive to progressive and earnest teachers, and this Committee should recognize its importance and make such an utterance upon it as will guide the average teacher to a clear comprehension of its meaning and to a wise use of it in the schoolroom.

Second, there is a still higher form of correlation which is definitely referred to later in the report as that "of the several branches of human learning in the unity of the spiritual view furnished by religion to our civilization." This in the report is assigned absolutely to the province of higher education. While I do not wish to dissent wholly from this view, since it is doubtless true that this higher unity cannot be comprehensively stated for the use of a child, yet a wise teacher can so present subjects to even a young child that a sense of the unity of all knowledge will, to a certain degree, be unconsciously developed in his mind. In regard to certain of the great divisions of human knowledge, this relation is so evident that they cannot be properly presented at all unless the relation be made clear. Such studies are history and geography.

2. The recommendations upon the subject of language should be broadened to cover the production of good English by the child himself, with the suggestion of suitable topics and proper methods. This report confines itself to the absorptive side of education and ignores that development of power over

nature, man, and self, which comes from free exercise of faculties and free expression of thought. The study of language as something for the child to use himself, the great means by which he is to assert his place in civilization, and exert his influence for good, is nowhere referred to except in the vaguest way. This statement in regard to language applies almost equally well to drawing, and here is made evident the importance of the form of correlation to which I have just referred. The proper material for the training of the child in expression is that which is furnished by the study of man and nature. His mind being filled with high themes, he asserts his individuality, expresses himself in regard to them, and thereby gains at once both a closer and clearer comprehension of what he has studied, and also the power by which he may become a factor in his generation.

3. I would wish to omit the word "weekly" where it occurs in the discussion of the subjects of general history and science, unless it be understood to mean that an amount of time in the school year equivalent to sixty minutes weekly be given to each of these subjects. It is often better to condense these studies into certain portions of the year, giving more time to them each week and using them as the basis, to a certain degree, of language work. I believe that, especially with young children, clearer concepts are produced by such connected study, pursued for fewer weeks, than by lessons seven days apart.

4. In my judgment manual training should not be limited to the seventh and eighth grades, but should begin in the kindergarten with the simple study of form from objects and the reproduction in paper of the objects presented, and should extend, in a series of carefully graded lessons, through all the grades, leaving, however, the heavier tools, such as the plane, for the seventh and eighth grades. By these means an interest is kept up in the various human industries, sympathy for all labor is created, and a certain degree of skill is developed; moreover the interest of the pupils in their school is greatly enhanced. Manual training has often proved the magnet by

which boys at the restless age have been kept in school instead of leaving for some gainful occupation.

5. I desire to suggest that geometry may be so taught as to be a better mathematical study than algebra to succeed or accompany arithmetic in the seventh and eighth grades. I do not refer particularly to inventional geometry, to which the Committee accords a slighting attention, but to constructive geometry and the simplest propositions in demonstrative geometry, thus involving the comprehension of the elementary geometric forms and their more obvious relations. This study may be made of especial interest in connection with manual training and drawing, while it presents fewer difficulties to the immature mind than the abstractions of algebra, since it connects more directly with the concrete, by which its presentation may often be aided.

6. While agreeing fully with the majority of the Committee that the full scientific method should not be applied to the study of elementary science by young children, yet I am compelled to favor more of experimentation and observation by the child, and less of telling by the teacher than the report would seem to favor.

7. I would go farther than the majority of the Committee, and insist that, except in rare cases, there should be no specialization of the teaching force below the High School, and that even in the first years of the High School, so far as possible, specialization should be subordinated to a general care of the child's welfare and oversight of his methods of study, which are impossible when a corps of teachers give instruction, each in one subject, and see the student only during the hour of recitation.

8. While in the main I agree with the bald statements under the head "Correlation by synthesis of studies," since reference is made to only a very artificial mode of synthesis not at all in vogue in this country, I must dissent emphatically from this portion of the report as by inference condemning a most important department of correlation, to which I have referred earlier. The doctrine of concentration is not necessarily arti-

ficial; rather it refers to the higher unity, of which this Committee has spoken in glowing terms as belonging to the province of higher education. It also includes the division of the school curriculum into content and form, which this Committee inferentially adopts in its treatment of language. I do not believe, any more than do the majority of the Committee, that the entire course of study can be literally and exactly centered about a single subject, nor do I believe in any artificial correlation; but there is a natural relation of all knowledges, which this Committee admits in various places, and which is the basis of a proper synthesis of studies, according to the psychological principal of apperception.

9. If by the term "oral," as applied to lessons in biography and in natural science, the Committee means, as the word would imply, that the instruction is to be given in the form of lectures by the teacher, I cannot in full agree with the Committee's conclusions. As I have already stated, in natural science the work should be largely that of observation, and in history and biography, while in the very lowest grades the teachers should tell the children stories, as soon as it is possible the desired information should be obtained by the student through reading. To this end the reading lesson in school should be properly correlated with his other studies, and he should be advised as to his home reading. The information thus obtained should be the subject of conversation in the class, and should furnish the material for much of the written language work of the children.

10. I must dissent emphatically and entirely from that portion of the report which recommends that a text-book in grammar be introduced into the fifth year of the child's school life. It is a question in my mind whether it would not be better if the text-book were not introduced into the grades below the High School at all. Certainly it should not appear before the seventh year. Such knowledge of grammar as will familiarize the child with the structure of the sentence, the basis of all language, and as will enable him to use correctly forms of speech which the necessities of expression require,

should be given orally by the teacher in connection with the child's written work, when needed; but against the introduction of a text-book upon grammar, the most abstruse of all the subjects of the school curriculum, when the pupil is not more than ten years old, I must protest. Instead of that the child should devote much time, some every day, to writing upon proper themes in the best English he can command, furnishing occasion to the teacher to correct such errors as he may make, and acquiring by use acquaintance with the correct forms of grammar. If, as will doubtless be the case in most cities, local conditions render the introduction of Latin into the eighth grade inadvisable, this study of grammar may be made in that grade somewhat more intensive.

11. If by a text-book in geography is meant that which is commonly understood by the term, and not simply geographical reading matter, in my judgment, it should not be introduced earlier than the fifth year.

These suggestions and expressions of dissent, if approved by the Committee, would necessitate some change in the programme submitted, the most important of which would be the making room for the production of English in the grades. This could be provided in the first and second grades by taking some of the time devoted to penmanship and doing the work partly in connection with the reading classes. In the third and fourth grades it should take some of the time devoted to penmanship and should be studied also in connection with geography and reading, and in the fifth and sixth grades it should take all of the time given to grammar.

I regret to be compelled to express dissent upon so many points, but as most of them appear to me vital and as the differences appear to be not merely superficial but fundamental, affecting and affected by one's entire educational creed, I cannot do otherwise. To most of the report I most gladly give my assent and approval.

CHARLES B. GILBERT,
Superintendent of Schools, St. Paul, Minn.

I agree most heartily with the main features of the foregoing report of the sub-committee on correlation of studies It is so admirable in its analysis of subjects and in its statement of comparative education values, and so suggestive in its practical applications to teaching, that I regret to find myself appearing in any way to dissent from its conclusions. Indeed my principal objection is not against anything contained in the report (unless it be against a possible inference which might be drawn at one point), but it refers rather to what seems to me to be an omission.

In addition to all the forms of correlation recommended in the report, it seems to me possible to make a correlation of subjects in a programme in such way that the selection of subject-matter may be to some extent from all fields of knowledge. These selections should be such as are related to one another so as to be mutually helpful in acquisition. They should be the main features of knowledge in the different departments.

These different departments from which the chosen subjects should be taken must be fundamental ones and must be sufficiently numerous to represent universal culture. The report itself indicates conclusively what these are.

Reference is made in the report to various attempts that have been made to correlate subjects of study.

A very just criticism is made upon that attempt at correlation by the use of the story of Robinson Crusoe as a center of correlation. It is distinctly pointed out in the report that the experiences of Robinson Crusoe are lacking in many of the elements of universal culture, and in many elements of education needed to adjust the individual properly to the civilization of our time and country. It is equally evident that the attempt to make this story the center of correlation leads directly to trivial exercises in other subjects in order to make them "correlate" with Robinson Crusoe. It is also shown in the report that it naturally leads to fragmentary knowledge of many subjects very much inferior to that clear, logically connected knowledge of a subject which may be had by pursuing it without reference to correlating it with all others.

It is at this point that in my judgment a wrong inference is permitted by the report.

It does not, as it seems to me, follow that, because correlation based on Robinson Crusoe is a failure, all correlations having the same general purpose will necessarily prove failures. For my own part I do not believe that correlation needs any "center," outside the child and its natural activities. If, however, it seems wiser to give special prominence to any given field, of acquisition, it should, in my judgment, be accorded to language and its closely related subjects—reading, spelling, writing, composing, study of literature, etc., etc. Indeed language as a mode of expression is organically related to thinking, in all fields of knowledge, as form is related to content. A "system" or "programme" of correlation on this basis would seek for fundamental ideas in all the leading branches and make them themes of thought and occasions of language exercises. The selections would omit all trivialities in all subjects, and would not attempt to correlate for the mere sake of correlation; but would seek to correlate wherever by such correlation kindred themes may be made to illuminate one another. To illustrate, concrete problems in arithmetic would be sought that would clearly develop and illustrate mathematical ideas and their application; but in a secondary way these problems would be sought for in the various departments of concrete knowledge—geography, history, physics, chemistry, astronomy, meteorology, political, industrial, or domestic economy. But none of these themes would be so relied upon for problems as to compel one to choose unreasonable or trivial relations on which to base them. The problems themselves should represent true and important facts and relations of the other subjects as surely and rigidly as they should involve correct mathematical principles; and all such exercises should be rightly related to the child's education in language.

In like manner, when a child is engaged in nature study of any kind, some valuable problems in mathematics may be found rightly related both to the subject directly in hand and the child's natural progress in arithmetic. Also many of the lessons in nature study are directly related to some of the finest literature ever produced, in which analogies of nature are made the means of expression for the finest and most delicate of the human experiences. When the child has mastered the physical facts on which the literary inspiration is based is the true time to give him the advantage of the study of such literature. These ideas are not only rightly related to one another, but to the mind itself. It is, so to speak, the nascent moment when the mind can easily and fully master what might else remain an impenetrable mystery; and all because subjects and occasion have come into happy conjunction.

This is not the place in which to attempt any elaboration of such a system of correlation. But I feel that its absence from the report may make many persons feel that the latter is so far incomplete.

L. H. JONES,
Superintendent of Schools, Cleveland, O.

With the main lines of thought in this report I find myself in agreement. With many of its details, however, I am not in accord. I regret to have to express my dissent from its conclusions in the following particulars:

1. The report makes too little of the uses of grammar as supplying canons of criticism which enable the pupil to correct his own English, and as furnishing a key (grammatical analysis) that gives him the power to see the meaning of obscure or involved sentences.

2. For the study of literature, complete works are to be preferred to the selections found in school readers.

3. That species of language exercise known as paraphrasing I regard as harmful.

4. The study of number should not be omitted from the first year in school. Practice in the primary operations of arithmetic should not be omitted from the seventh and eighth years. The quadratic equation should be reserved for the High School.

5. The foreign language introduced into the elementary school course should be a modern language—French or German. Latin should be reserved for those who have time and opportunity to master its literature.

6. In the general programme of studies, the school day is cut up into too many short periods. The tendency of such a programme as that in the text would be to destroy repose of mind and render reflection almost an impossibility.

7. I desire to express my agreement with the opinions stated in Sections 2, 3, 6, and 9 of Mr. Gilbert's dissenting opinion; and, in the main, with what Mr. Jones says on the correlation of studies.

WILLIAM H. MAXWELL,
Superintendent of Schools, Brooklyn, N. Y.

III

COMMITTEE OF FIFTEEN

REPORT OF THE SUB-COMMITTEE ON THE ORGANIZATION OF CITY SCHOOL SYSTEMS

It is understood that the Committee is to treat of city school systems which are so large that persons chosen by the people to manage them, and serving without pay, cannot be expected to transact all the business of the system in person, nor to have personal knowledge of all business transactions; and which are also so large that one person employed to supervise the instruction cannot be assumed to personally manage or direct all of the details thereof; but must, in each case, act under plans of organization and administration established by law, and through assistants or representatives.

The end for which a school system exists is the *instruction of the children*, the word instruction being used with the meaning it attains in the mind of a well-educated person, if not in the mind of an educational expert.

To secure this end, no plan of organization alone will suffice. Nothing can take the place of a sincere desire for good schools, of a fair knowledge of what good schools are and of what will make them, of a public spirit and a moral sense on the part of the people, which are spontaneous or which can be appealed to with confidence. Fortunately the interest which the people have in their own children is so large, and the anxiety of the community for public order and security is so great, that public sentiment may ordinarily be relied upon, or may be aroused to action, to choose proper representatives and take proper measures for the administration of the schools. If, in any case, this is not so, there is little hope of efficient schools. Wherever it *is* so, it alone will not suffice; but proper organization may become the instrument of public sentiment and develop schools that will be equal to the needs of all and become the safeguards of citizenship.

Efficient schools can be secured only by providing suitable buildings and appliances and by keeping them in proper order, on the one hand, and, on the other hand, by employing, organizing, aiding, and directing teachers so that the instruction shall have life and power to accomplish the great end for which schools are maintained.

The circumstances of the case naturally and quickly separate the duties of administration into two great departments: one which manages the business affairs, and the other which supervises the instruction. The business affairs of the school system may be transacted by any citizens of common honesty, correct purposes, and of good business experience and sagacity. The instruction will be ineffective and abnormally expensive unless put upon a scientific educational basis and supervised by competent educational experts.

There will be a waste of money and effort, and a lack of results, unless the authorities of these two departments are sympathetic with each other; that is, unless, on the one hand, the business management is sound, is appreciative of good teaching, looks upon it as a scientific and professional employment, and is alert to sustain it; and unless, on the other hand, the instructors are competent and self-respecting, know what good business management is, are glad to uphold it, and are able to respect those who are charged with responsibility for it.

To secure efficiency in these departments, there must be adequate authority and quick public accountability. The problem is not merely to secure some good schoolhouses, but good schoolhouses wherever needed, and to avoid the use of all houses which are not suitable; it is not to get some good teaching, but to prevent all bad teaching and to advance all the teaching to the highest possible point of special training, of professional spirit, and of life-giving power. All of the business matters must be intrusted to competent business hands and managed upon sound business principles; and all of the instruction must be put upon a professional basis. To insure this, there must be deliberation and wisdom in determining policy, and then the power to do what is determined upon must be present and capable of exercise, and the responsibility for the proper exercise of the power must, in each case, be individual and immediate.

It is imperative that we discriminate between the legislative and the executive action in organizing and administering the schools. The influences which enter into legislative action looking to the general organization and work of the schools must necessarily and fundamentally flow directly from the people and be widely spread. The greater the number of people, in proportion to the entire population, who can be led to take a positive interest and an active part in securing good schools the better will the schools be, provided the people can secure the complete execution of their purposes and plans. But experience has clearly shown that many causes intervene to prevent the complete execution of such plans; that all the natural enemies of sound administration scent plenty of plunder and are especially active here; that good school administration requires much strength of character, much business experience, much technical knowledge, and can be measurably satisfactory only when the responsibility is adequate and the penalties for maladministration are severe. Decentralization in making the plan and determining what shall be done, and centralization in executing the plan and in doing what is to be done, are perhaps equally important.

It should be remembered that the character of the school work of a city is not merely a matter of local interest, and that the maintenance of the schools does not rest merely or mainly upon local authority. The people of the municipality, acting, and ordinarily glad to act, but in any event being required to act, under and pursuant to the law which has been ordained by the sovereign authority of the State, establish and maintain schools. They must have the taxing power which the State alone possseses in order to enable them to proceed at all. They must regard the directions which the State sees fit to give as to the essential character of the schools, when it exercises in their behalf, or when it delegates to them, the power of taxation.

The plan should be flexible for good while inflexible for evil. After meeting essential requirements, the people of the municipality may and should be empowered to proceed as much farther as they will in elaborating a system of schools. The higher the plane of average intelligence, and the more generally and the more directly the people act in deciding what shall be done, and the greater the facility and completeness with which the intelligence of the city is able to secure the proper execution of its plans by officers appointed for that purpose, the more elaborate and the more efficient will be the schools.

It is idle to suggest that centering executive functions is unwisely taking power away from the people. The people cannot execute plans themselves. The authority to do so must necessarily be delegated. The question simply is: Shall it be given to a number of persons, and, if so, to how many? Or, to only one? This question is to be decided by experience, and it is of course true that experience has not been uniform. But it is doubtless true that the general experience of the communities of the country has shown that where purely executive functions are conferred upon a number of persons, jointly, they yield to antagonistic influences and shift the responsibility from one to another; and that centering the responsibility for the proper discharge of executive duties upon a single person, who gets the credit of good work and must bear the disgrace or penalty of bad work, and who can quickly be held accountable for misdeeds and inefficiency, has secured the fullest execution of public plans and the largest results. To call this "centralization," with the meaning which commonly attaches to the word, is inaccurate. Instead of removing the power from the people, it is keeping the power closer to the people and making it possible for the citizen, in his individual capacity, and for organized bodies of citizens, to secure the execution of plans according to the purpose and intent with which those plans were made. Indeed it is safe to say that experience has shown that it is *the only way* in which to prevent the frequent thwarting of the popular will and the defiance of individuals whose interests are ignored or whose rights are invaded.

So much, it seems to us, is strongly supported both by reason and by experience, and is clearly manifest.

But all the people of a city whose population is numbered by hundreds of thousands or millions cannot meet in a legislative assemblage to formulate plans for school government, any more than they can all meet to make plans for municipal government. They cannot even gather in mass meetings, and, if they could, mass meetings cannot deliberate. Even their legislative action must flow not from a primary but from a representative assembly.

What shall such a representative legislative body be called? How shall it be chosen? Of how many members shall it be composed? And what shall be its powers? These and other similar questions are all-important and must be determined by the law-making power of the State. The sentiments of the city, as expressed through the local organizations and particularly through the newspapers, must of course have much weight with the legislature if there is anything like unanimity or any very strong preponderance of opinion in the city; for the plan for which a community expresses a preference will surely be likely to operate most effectually in that community. But the local sentiment is not conclusive. When divided, it is no guide at all. The legislature is to take all the circumstances into consideration, take the world's experience for its guide, and, acting under its responsibilities, it must exercise its high powers in ways that will build up a system of schools in the city likely to articulate with the State educational system and become the effective instrument of developing the intelligence and training the character of the children of the city up to the ideals of the State.

The name of the legislative branch of the school government is not material, and the one to which the people are accustomed may well continue to be employed. There is no name more appropriate than the "Board of Education."

The manner of selecting the members of this legislative body may turn somewhat upon the circumstances of the city. We are strongly of the opinion that in view of the well-known difficulty about securing the attendance of the most interested and intelligent electors at school elections, as well as because of the apparent impossibility of freeing school elections from political or municipal issues, the better manner of selection is by appointment.

If the members of the board are appointed, the mayor of the city is likely to be the official to whom the power of appointment may most safely be intrusted. The mayor is not suggested because his office should sustain any relations to the school system, but in spite of the fact that it does not and should not. The school system should be absolutely emancipated from partisan politics and completely dissociated from municipal business. But we think the appointments should be made by some one person rather than by a board. The mayor is representative of the whole city and all its interests. While not chosen with any reference to the interests of the schools, he may be assumed to have information as to the fitness of citizens for particular responsibilities and to be desirous of promoting the educational interests of the people. If he is given the power of appointment, he should be particularly enjoined, by law, to consider only the fitness of individuals and to pay no regard to party affiliations, unless it be particularly to see to it that no one political party has an overwhelming preponderance in the board. The mayor very commonly feels constrained, under the pressure of party expediency, to make so many questionable appointments that he is only too glad, and particularly so when enjoined by the law, to make very acceptable appointments of members of school boards, in order that he may gratify the better sentiment of the city. We are confident that the problem of getting a representative board of education is not so difficult as many think, if the board is not permitted to make patronage of work and of salaried positions at the disposal of the public school system. Under such circumstances, and more and more so as we have approached such circumstances, appointment in the way we suggest has produced the best school boards in the larger cities of the country.

Attempts to eliminate partisanship from school administration, by arraying an equal number of partisans against each other in school boards do not at least aim at an ideal. At times such boards have worked well and at others have led to mischievous consequences. The true course is to insist that all who have any share in the management of the schools shall divest themselves of partisanship, whether political or religious, in such management, and give themselves wholly to the high interests intrusted to them. If it be said that this cannot be realized, it may be answered, without admitting it, that even if that were so it would be no reason why the friends of the schools should not assert the sound principle and secure its enforcement as far as possible. We must certainly give no countenance to makeshifts which experience has shown to be misleading and expensive. The right must prevail in the end, and the earlier and more strongly it is contended for the sooner it will prevail.

The members of school boards should be representative of the whole population and of all their common educational interests, and should not be chosen to represent any ward or subdivision of the territory or any party or element in the political, religious, or social life thereof. Where this principle is not enforced, the members will feel bound to gain what advantage they can for the sub-district or special interests they represent; bitter contests will ensue, and the common interests will suffer.

The number of the members of a board of education should be small. In cities of less than 500,000 inhabitants it should not be more than nine, and preferably not more than five. In the very largest cities it may well be extended to fifteen.

The term for which members are appointed should be a long one, say five years.

We think it an excellent plan to provide for two branches and sets of powers in the board of education; the one to have the veto power, or at least to act as a check upon the acts of the other. This may be accomplished by creating the office of School Director and charging the incumbent with executive duties on the business side of the administration, and by giving him the veto over the acts of the other branch of the board, which may be called the School Council. Beyond the care and conservatism which are insured by two sets of powers acting against each other, this plan has the advantage of giving the chief executive officer of the system just as high and good a title as that of members of the board; it is likely to secure a more representative man, and gives him larger prerogatives in the discharge of his executive duties and better standing among the people, particularly among the employees and teachers associated with the public school system.

If this plan is adopted, the school director should be required to give his entire time to the duties of his position and be properly compensated therefor. He should be the custodian of all property and should appoint all assistants, janitors, and workmen authorized by the board for the care of this property. He should give bond with sufficient sureties and penalties for the faithful and proper discharge of all his duties. He should be authorized by law to expend funds, within a fixed limit, for repairs, appliances, and help, without the action of the board. All contracts should be made by him and should run in his name, and he should be charged with the responsibility of seeing that they are faithfully and completely executed. All contracts involving more than a limited and fixed sum of money should be let upon bids to be advertised for and opened in public. He should have a seat in the board of education, should not vote but should have the power to veto, either absolutely or conditionally, any of the acts of the board through a written communication. This officer and the school council should together constitute the board of education.

The board of education should be vested only with legislative functions and should be required to act wholly through formal and recorded resolutions. It should determine and direct the general policy of the school system. Within reasonable limits, as to amount, it should be given power, in its discretion, to levy whatever moneys may be needed for school purposes. It should control the expenditure of all moneys beyond a fixed and limited amount, which may safely and advantageously be left to the discretion of the chief executive business officer. It should authorize, by general resolutions, the appointment of necessary officers and employees in the business department, and of the superintendent, assistants, and teachers in the department of instruction, but it should be allowed to make no appointments other than its own clerk. With this necessary exception, single officers should be charged with responsibility for all appointments.

This plan, not in all particulars, but in the essential ones, has been on trial in the city of Cleveland, O., for nearly three years, and has worked with very general acceptability. If this plan is adopted, the chief executive officer of the system is already provided for and his duties have already been indicated. Otherwise it will be necessary for the board to appoint such an officer. In that event the law should declare him independent, confer upon him adequate authority for the performance of executive duties, and charge him with responsibility. But we know of no statutory language capable of making an officer appointed by a board, and dependent upon the same board for supplies, independent in fact of the personal wishes of the members of that board. And right here is where the troubles rush in to discredit and damage the school system.

We now come to the subject of paramount importance in making a plan for the school government in a great city, namely, the character of the teaching force and the quality of the instruction. A city school system may be able to withstand some abuses on the business side of its administration and continue to perform its function with measurable success, but wrongs against the instruction must, in a little time, prove fatal. The strongest language is none too strong here. The safety of the Republic, the security of American citizenship, are at stake. Government by the people has no more dangerous pitfall in its road than this, that in the mighty cities of the land the comfortable and intelligent masses, who are discriminating more and more closely about the education of their children, shall become dissatisfied with the social status of the teachers and the quality of the teaching in the common schools. In that event, they will educate their children at their own expense, and the public schools will become only good enough for those who can afford no better. The only way to avert this is by maintaining the instruction upon a purely scientific and professional footing. This is entirely practicable, but it involves much care and expense in training teachers, the absolute elimination of favoritism from appointments, the security of the right to advancement, after appointment, on the basis of merit, and a general leadership which is kindly, helpful, and stimulating to individuals, which can secure harmonious co-operation from all the members, and which lends energy and inspiration to the whole body.

This cannot be secured if there is any lack of authority, and experience amply proves that it will not be secured if there is any division of responsibility. The whole matter of instruction must be placed in the hands of a superintendent of instruction, with independent powers and adequate authority, who is charged with full responsibility.

The danger of inconsiderate or improper action by one vested with such powers is of course possible, but it is remote. Regardless of the legal powers with which he may be individually vested, he is in fact and in law a part of a large system. He must act through others and in the presence of multitudes. There is great publicity about all he does. When a single officer carries such responsibility he is at the focus of all eyes. There are the strongest incentives to right action. Without discovery, at least by many persons, he cannot act wrongfully. If he is required to act under and pursuant to a plan, the details of which have been announced, and of which we shall speak in a moment, a wrongful act will be known to the world and he must bear the responsibility of it, and the danger of maladministration is almost eliminated.

Moreover, we must consider the alternative. It is not in doubt. All who have had any contact with the subject are familiar with it. It is administration by boards or committees, the members of which are not competent to manage professional matters and develop an expert teaching-force. Yet they assume, and in most cases honestly, the knowledge of the most experienced. They override and degrade a superintendent, when they have the power to do so, until he becomes their mere factotum. For the sake of harmony and the continuance of his position he concedes, surrenders, and acquiesces in their acts, while the continually increasing teaching-force becomes weaker and weaker and the work poorer and poorer. If he refuses to do this, they precipitate an open rupture and turn him out of his position. Then they cloud the issues and shift the responsibility from one to another. There are exceptions, of course, but they do not change the rule.

It will be unprofitable to mince words about this all-important matter. If the course of study for the public schools of a great city is to be determined by laymen, it will not be suited to the needs of a community. If teachers are to be appointed by boards or committees, the members of which are particularly sensitive to the desires of people who have votes or influence, looseness of action is inevitable and unworthy considerations will frequently prevail. If the action of a board or committee be conditioned upon the recommendation of a superintendent, the plan will not suffice. No one person is stronger than the system of which he is a part. Such a plan results in contests, between the board and the superintendent, and such a contest is obviously an unequal one. There is little doubt of the outcome. In recommending for the appointment of teachers, the personal wishes of members of the board, in particular cases, will have to be acquiesced in. If a teacher, no matter how unfit, cannot be dropped from the list without the approval of a board or committee after they have heard from her friends and sympathizers, she will remain indefinitely in the service. This means a low tone in the teaching force and desolation in the work of the schools. If the superintendent accepts the situation, he becomes less and less capable of developing a professional teaching service. If he refuses to accept it, he is very likely to meet humiliation: dismissal is inevitable unless he is strong enough to make himself secure by doing the right thing and going directly to the people and winning their approval.

The superintendent of instruction should be charged with no duty save the supervision of the instruction, but should be charged with the responsibility of making that professional and scientific, and should be given the position and authority to accomplish that end.

If the board of education is constituted upon the old plan, he must be chosen by the board. If it is constituted upon the Cleveland plan, he may be appointed by the school director with the approval of two-thirds or three-fourths of the council. The latter plan seems preferable, for it centralizes the main responsibility of this important appointment in a single individual. In either case, the law and the sentiment of the city should direct that the appointee shall be a person liberally educated, professionally trained, one who knows what good teaching is, but is also experienced in administration, in touch with public affairs and in sympathy with popular feeling.

The term of the superintendent of instruction should be from five to ten years, and until a successor is appointed. In our judgment it should be determinate so that there may be a time of public examination, but it should be sufficiently long to enable one to lay foundations and show results without being carried under by the prejudices which always follow the first operation of efficient or drastic plans. The salary should be fixed by law and not subject to change in the middle of a term or except by law.

For reasons already suggested, the superintendent, once appointed, should have power to appoint from an eligible list all assistants and teachers authorized by the board, and unlimited authority to assign them to their respective positions and reassign them or remove them from the force at his discretion.

To secure a position upon the eligible list from which appointments may be made, a candidate, if without experience, should be required to complete the full four years' course of the city high schools, or its equivalent, and in addition thereto pass the examination of the board of examiners, and complete at least a year's course of professional training in a city normal training school under the direction of the superintendent. If the candidate has had say three years of successful experience as a teacher, he should be eligible to appointment by passing an examination held by a general examining board. This board may be appointed by the board of education, but should examine none but graduates of the high school and training school unless specially requested so to do by the superintendent of instruction. The number admitted to the training schools should be limited, and the examinations should be gauged to the prospective needs of the elementary schools, for new teachers. The supply of new teachers may well be largely, but should not be wholly, drawn from this local source. The force will gain fresh vitality by some appointments of good and experienced teachers from outside.

The work of putting a large teaching force upon a professional basis, of making the teaching scientific and capable of arousing minds to action, is so difficult that a layman can scarcely appreciate it. It has hardly been commenced, it has been made possible only when the avenues of approach to the service have been closed against the unqualified and unworthy. After that, the supervision must be close and general as well as sympathetic and decisive. The superintendent must have expert assistants enough to learn the characteristics and measure the work of every member of the force. They must help and encourage, advise and direct, according to the circumstances of each case. The work must be reduced to a system and the workers brought into harmonious relations. Each room must show neatness and life, and the whole force must show ardor and enthusiasm. By directing the reading, by encouraging an interchange of visits, by organizing clubs for self-improvement, by frequent class, grade, and general meetings, the professional spirit must be aroused and the work energized. Those who show teaching power, versatility, amiability, reliability, steadiness, and growth, must be rewarded with the highest positions; those who lack fiber, who have no energy, who are incapable of enthusiasm, who will not work agreeably with their associates, must go upon the retired list. Directness and openness must be encouraged. Attempts to invoke social, political, religious, or other outside influences to secure preferment must operate to close the door to advancement. In general and in particular, bad teaching must be prevented. In every room, a firm and kindly management must prevail and good teaching must be apparent. All must work along common lines which will insure general and essential ends. Until a teacher can do this and can be relied upon to do it, she must be helped and directed; when it is manifest she cannot or will not do it, she must be dismissed: when she shows she can do it and wants to do it, she must be left to exercise her own judgment and originality and do it in her own way. In the schoolroom, the teacher must be secure against interference. In all the affairs of the school, her judgment must be trusted to the utmost limit of safety. Then judgment will strengthen and self-respect and public respect will grow. The qualities which develop in the teacher will develop in the school. To develop these qualities with any degree of uniformity, in a large teaching force, requires steady and uniform treatment through a long course of years under superintendence which is professional, strong, just, and courageous; which has ample assistance and authority; which is worthy of public confidence and knows how to marshal facts, present arguments, and appeal to the intelligence and integrity of the community with success.

It is the business of the plan of organization to secure such superintendence. It cannot be secured through an ordinary board of education operating on the old plan. It is well known what the influences are that are everywhere prevalent and must inevitably prevent it. It may be secured in the law, and it must be secured there or it will not be secured at all.

In concluding this portion of the report, the Committee indicates briefly the principles which must necessarily be observed in framing a plan of organization and government in a large city school system.

First. The affairs of the school should not be mixed up with partisan contests or municipal business.

Second. There should be a sharp distinction between legislative functions and executive duties.

Third. Legislative functions should be clearly fixed by statute and be exercised by a comparatively small board, each member of which is representative of the whole city. This board, within statutory limitations, should determine the policy of the system, levy taxes, and control the expenditures. It should make no appointments. Every act should be by a recorded resolution. It seems preferable that this board be created by appointment rather than election, and that it be constituted of two branches acting against each other.

Fourth. Administration should be separated into two great independent departments, one of which manages the business interests and the other of which supervises the instruction. Each of these should be wholly directed by a single official who is vested with ample authority and charged with full responsibility for sound administration.

Fifth. The chief executive officer on the business side should be charged with the care of all property and with the duty of keeping it in suitable condition: he should provide all necessary furnishings and appliances: he should make all agreements and see that they are properly performed: he should appoint all assistants, janitors, and workmen. In a word, he should do all that the law contemplates and all that the board authorizes, concerning the business affairs of the school system, and when anything goes wrong he should answer for it. He may be appointed by the board, but we think it preferable that he be chosen in the same way the members of the board are chosen, and be given a veto upon the acts of the board.

Sixth. The chief executive officer of the department of instruction should be given a long term and may be appointed by the board. If the board is constituted of two branches, he should be nominated by the business executive and confirmed by the legislative branch. Once appointed, he should be independent. He should appoint all authorized assistants and teachers from an eligible list to be constituted as provided by law. He should assign to duties and discontinue services for cause, at his discretion. He should determine all matters relating to instruction. He should be charged with the responsibility of developing a professional and enthusiastic teaching force and of making all the teaching scientific and forceful. He must perfect the organization of his department and make and carry out plans to accomplish this. If he cannot do this in a reasonable time he should be superseded by one who can.

The government of a vast city school system comes to have an autonomy which is largely its own and almost independent of direction or restraint. The volume of business which this government transacts is represented only by millions of dollars: it calls not only for the highest sagacity and the ripest experience, but also for much special information relating to school property and school affairs. Even more important than this is the fact that this government controls and determines the educational policy of the city and carries on the instruction of tens or hundreds of thousands of children. This instruction is of little value, and perhaps vicious, unless it is professional and scientific. This government is representative. All citizens are compelled to support it, and all have large interests which it is bound to promote. Every parent has rights which it is the duty of this school government to protect and enforce. When government exacts our support of public education, when it comes into our homes and takes our children into its custody and instructs them according to its will, we acquire a right which is as exalted as any right of property, or of person, or of conscience, can be; and that is the right to know that the environment is healthful, that the management is kindly and ennobling, and that the instruction is rational and scientific. It is needless to say to what extent these interests are impeded or blocked, or how commonly these rights of citizenship and of parentage are denied or defied, or how helpless the individual is who seeks their enforcement under the system of school government which has heretofore obtained in some of the great cities of the country. This is not surprising. It is only the logical result of the rapid growth of cities, of a marvelous advance in knowledge of what is needed in the schools, of the antagonism of selfish interests by which all public administration and particularly school administration is encompassed, and of the lack of plan and system, the confusion of powers, the absence of individual responsibility, in the government of a system of schools. By the census of 1890 there are seven cities in the United States, each with a population greater than any one of sixteen States. The aggregate population of twelve cities exceeds the aggregate population of twenty States. Government for education certainly requires as strong and responsible an organization as government for any other purpose. These great centers of population, with their vast and complex educational problems, have passed the stage when government by the time-honored commission will suffice. No popular government ever determined the policy and administered the affairs of such large bodies of people successfully, ever transacted such a vast volume of business satisfactorily, ever promoted high and beneficent ends, ever afforded protection to the rights of each individual of the great multitude, unless in its plan of organization there was an organic separation of executive, legislative, and judicial functions and powers. All the circumstances of the case, and the uniform experience of the world, forbid our expecting any substantial solution of the problem we are considering until it is well settled in the sentiments of the people that the school systems of the greatest cities are only a part of the school systems of the States of which these cities form a part, and are subject to the legislative authority thereof: until there is a plan of school government in each city which differentiates executive acts from legislative functions; which emancipates the legislative branch of that government from the influence of pelf-seekers; which fixes upon individuals the responsibility for executive acts, either performed or omitted; which gives to the intelligence of the community the power to influence legislation and exact perfect and complete execution; which affords to every citizen whose interests are ignored, or whose rights are invaded, a place for complaint and redress; and which puts the business interests upon a business footing, the teaching upon an expert basis, and gives to the instruction that protection and encouragement which is vital to the development of all professional and scientific work.

We have undertaken to indicate the general principles which we think should be observed in setting up the framework of government of a large city school system. While we have no thought that any precise form of organization which could be suggested, would, in all details, be imperative, we are confident that the form or plan of organization is of supreme consequence, and that any which disregards the principles we have pointed out will work to disadvantage or lead to disaster.

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W. B. POWELL,
Superintendent of Schools, Washington, D. C.
A. B. POLAND,
State Superintendent of Public Instruction, Trenton, N. J.

I find myself in general accord with the doctrines of the report. There is only one feature of it from which I feel obliged to dissent, and that is an important though not necessarily a vital one. I refer to the office of school director. I see no need of such an officer elected by the people, and I do see the danger of his becoming a part of the political organization for the dispensation of patronage.

All power and authority in school affairs should reside ultimately in the board of education, consisting of not more than eight persons appointed by the mayor of the city, to hold office four years, two members retiring annually and eligible for reappointment once and no more. This board should appoint as its chief officer a superintendent of instruction, whose tenure should be during good behavior and efficiency, and whose powers and duties should be to a large extent defined by statute law, and not wholly or chiefly by the regulations of the board of education. The superintendent of instruction should have a seat and voice but not a vote in the board of education. The board of education should also appoint a business agent, and define his powers and duties in relation to all matters of buildings, repairs, and supplies, substantially as set forth in the report in relation to the school director.

All teachers should be appointed and annually reappointed or recommended by the superintendent of instruction, until after a sufficient probation they are appointed on a tenure during good behavior and efficiency.

All matters relating to courses of study, text-books, and examinations should be left to the superintendent and his assistants, constituting a body of professional experts who should be regarded as alone competent to deal with such matters, and should be held accountable therefor to the board of education only in a general way, and not in particular details.

EDWIN P. SEAVER,
Superintendent of Schools, Boston, Mass.

I concur in the recommendations of the Sub-committee on the Organization of City School Systems as summarized in the concluding portion of the report, omitting in item *Third*, the words "And that it be constituted of two branches acting against each other." Omit *Fifth*, "But we think it preferable that he be chosen in the same way that members of the board are chosen and be given veto power upon the acts of the board." I recommend that the veto power be given to the president of the Board.

ALBERT G. LANE,
Superintendent of Schools, Chicago, Ill.

EDUCATIONAL REVIEW

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I

EDUCATIONAL AIMS AND EDUCATIONAL VALUES

INTRODUCTORY NOTE—The papers that follow, numbered I to VIII, inclusive, were read before the Harvard Teachers' Association on March 9, 1895. This association was founded in 1891. Its members are officers and graduates of Harvard University, and persons who have been students at the University either in term time or in the Summer Schools, and who are now teaching or intend to be teachers. Its objects are to promote the development of the study of Education and Teaching at Harvard University, to promote the professional advancement of the members of the Association, and especially to promote the free interchange of thought upon educational questions among the teachers whom the University has sent forth.

Of the questions underlying the making of courses of study the question of educational values is among the most important. Unless we are willing to adopt blindly a recommended or prescribed course of study which someone else has made—someone, perhaps, who has just as blindly followed someone else—the question of educational values must be intelligently considered. If certain subjects are chosen for a course of study because they are deemed suitable to occupy the time and attention of children and youth, there must be a reason for this choice—or there should be—independent of personal prejudices or mere tradition. If other subjects are preferred, there should likewise be a clear and valid reason for the preference. Further, after a subject has been chosen, it is not enough to recommend that it should be pursued for four years or for three or two years: we need to know why that subject may justly claim the proportion of time allotted to it.

That is to say: choice of subject matter and relative time allotment being rationally dependent on the educational values of the several subjects, the formulation of these values constitutes educational principles, which we need in order to construct our programmes on a rational basis.

In this paper the attempt is made to find some of these educational principles. The attempt is first made to set forth, in general terms, the educational values of all the subjects of instruction, and next to determine the relative educational values of the different subjects without explicitly taking into account the stages of development through which the pupil passes. The principles thus obtained are then applied to determine the relative educational values of the different subjects during the stages of elementary and secondary education.

It goes without saying that the principles given below are not regarded as a final solution of the question of educational values. The whole question, in its purely theoretical aspects, is still too new to make such a conclusion possible. Moreover, generations of intelligent experimenting must ensue before these theoretical conclusions can be verified in practice. Nevertheless, the principles referred to seem to me to have a real value, because they offer at least a provisional basis for the rational and not merely imitative construction of courses of study.

With this explanation, I trust that the somewhat abstract and seemingly dogmatic form, in which for the sake of brevity and at the same time of directness and clearness, I have been obliged to present the discussion, will not be misunderstood. It is, of course, impossible, in the brief space at my disposal, to make any extended argument for the positions taken. I can only indicate the direction of the argument.

I

It is evident that any estimate of educational values must ultimately depend on educational aims. The studies chosen are the means (not the sole means, of course, but the most important means) for the realization of those aims. The conception of the end to be attained must therefore determine the value of the means proposed; and any consideration of educational values must accordingly include a consideration of educational aims.

By the educational value of a subject I mean its efficacy in promoting the realization of the aim of education. The aim of education is to prepare for complete living. To live completely means to be as useful as possible and to be happy. By usefulness is meant service, *i. e.*, any activity which promotes the material or the spiritual interests of mankind, one or both.

One man's usefulness and happiness may be best promoted through intellectual activity, another s through the work of his hands; one man may be most useful and happy as an artist or a musician, another as a moral or spiritual leader. It is not necessary to multiply instances. The kind of work a man voluntarily engages in, and its value for himself and for society, will evidently always depend on his dominant interests, *i. e.*, on his motives or incentives to activity, and on his skill. Since skill is only fully developed power we may say, in general, that, physical vigor being assumed, a man's usefulness and happiness depend on intellectual incentives and power; artistic or æsthetic incentives and power; constructive incentives and power as applied to material things; character, comprising ethical incentives and conduct.

Although in what precedes the emphasis has been laid on preparation for usefulness and the happiness which depends on usefulness, it is evident that, while a man's happiness depends in large part on his usefulness, it also depends on the proper and adequate enjoyment of whatever leisure he may earn. Consequently a man requires careful preparation for the proper and adequate enjoyment of the refined pleasures of cultivated life as well as for usefulness. But this preparation obviously depends, like his preparation for usefulness, on the scope, kind, degree, and permanence of his interests and power.

Consequently the educational values of different subjects, *i. e.*, their efficacy in promoting the realization of the aim of education as defined above, consists (*a*) in the scope, kind, strength, and permanence of the incentives to activity; and (*b*) in the degree of permanence of the power to think and to execute that those subjects may develop.

Here, then, we have a common measure of educational value. Its factors are incentives and power. The different kinds of incentives and power, and the conditions under which they develop strength and permanence, next demand attention.

No one subject is capable of yielding all these incentives equally, but they are found in varying degrees in all subjects; the desire to know, to understand, to master the subject of pure mathematics or of physics, for example, is nearly a purely intellectual incentive; the desire to emulate the virtues of some moral or spiritual leader, or the devotion to duty of some hero of history or of literature is mainly an ethical incentive; the charm of the fine arts, impelling to exercise in the use of the pencil or the brush, is chiefly an æsthetic or artistic incentive; the fascination of manual construction, impelling to the use of tools in shaping material things, is, similarly, mainly a constructive incentive. It is evident, therefore, that the kinds of incentives to activity, whether intellectual, æsthetic, moral, or constructive, derivable from the course of study, depend on content (the nature of the subject-matter).

Since incentives are impulses to activity growing out of interest in the subject-matter, they will develop strength and permanence when interest in the subject-matter is strong, real, and permanent. Interest is impossible unless the subject is understood to some degree at least, and unless the pupil believes he has some capacity for it. Sufficient time must always be allowed in practice to determine whether the pupil's interest is real or merely imitative and spurious. Real interest will always be accompanied by capacity for a subject, and may usually be recognized by persistent, independent, and successful pursuit of a subject; for the pupil's spontaneous activity and achievement will always be along the lines of his preferences. Independent pursuit does not mean without the teacher's guidance, but it does mean without the teacher's constant urging or assistance. Real interest is accordingly the sole condition of strong and permanent incentives.

Power means ability to do something—to bring about results. The results achieved will always be in some one field of activity, however; and the kind of power developed through the pursuit of a given subject will consequently be usually restricted to power in dealing with data of a particular sort. That is to say, power in physics is different from power in Latin; and these forms of power are different from power in plastic art or pure mathematics, as these last are different from each other. There is no such thing as power in general that can be cultivated through the pursuit of any one subject, and can then be drawn upon at any time for successful achievement in other subjects. That a man shows power first in classics and afterward in mathematics or botany, for example, does not prove that the man's mathematical or scientific ability was developed through the classics. It proves only that the man has both linguistic and mathematical or scientific ability. It does happen, of course, that different subjects like mathematics and physics, or physics and chemistry, or drawing and painting, are closely related; and hence that the data of one subject are often found to some extent in another, and also that the method of one subject can be appropriately applied to another. In such cases the power developed through one subject may, to some extent, be carried over to the related subjects. But, in general, the relations of the subjects will not be close enough to justify the assumption that power may be developed through one subject for use in other subjects. We may say, therefore, that the kinds of power developed by a given subject will be: (*a*) specific—depending on the particular data with which the subject deals (the nature of the subject-matter); and (*b*) general—depending on the extent to which the same or similar data are found in other subjects, and the extent to which the method of one subject may be applied to other subjects.

The power developed will always be chiefly specific: but if, through correlation, the mutual ramification and interdependence of subject are traced; and further, if the method of one subject is explicitly carried over to other subjects to which it can be legitimately applied, the power developed will also be, to some extent, general.

The kinds of power developed through the different subjects having been described, we have still to examine the conditions under which this power develops strength and permanence. Power is developed for the sake of cultivating desirable habits of thought, expression (in words or in some other appropriate way), achievement, and conduct; since such habits constitute usefulness and usually bring happiness.

The degree and permanence of any power, and the consequent inculcation of desirable habits of thought, expression, achievement, and conduct, are developed through continuity and intensiveness in the pursuit of any of the subjects of instruction, each within its own field; but such power can be developed economically (advantageously) only through interest, *i. e.*, only when the subject actually yields one or more of the incentives enumerated above; or, in other words, the conditions under which strength and permanence of power are developed are continuity and intensiveness in the pursuit of any subject, based on interest.

It is of course true that power habitually exercised, even without interest, may result in the attainment of the beneficent "virtues of work" which, even when acquired through mere drudgery, contribute to usefulness and happiness. It must be borne in mind, however, that work without interest is drudgery, whatever the achievement may be; while work with interest is a constant source of happiness. During the school period the virtues of work cannot, however, be advantageously developed without interest, and it is doubtful if they ever can. During the school period aversion and evasion are more frequently cultivated than power and skill through the forced pursuit of permanently uninteresting subjects—subjects for which the learner has no capacity. When that does not happen, the pernicious habit of being satisfied with inadequate or partial achievement is very likely to be the result. In neither case does the individual develop his real capacity, nor does he acquire right habits. Occasionally, through some unusually strong extraneous incentive, a pupil will pursue successfully the apparently uninteresting, but such cases are rare and usually temporary. In no case can the degree of power thus developed be compared with the power developed through real interest, and the only resulting permanence to be thought of is the permanence of moderate instead of increasing power. Even in adult life, without interest and capacity (for the two always go together), power and skill and the consequent "virtues of work" must be developed, if at all, through extraneous motives. It must be evident, however, that, without interest, both in youth and in adult life, power is not advantageously nor economically cultivated, because the individual is not working along the lines of least resistance; so that whatever power and skill he may develop and however industrious he may be, his accomplishment will fall behind the accomplishment of others possessing interest and capacity in the same field both in respect to quantity and quality of achievement; and far behind what his own achievements might be in the direction of his own interest and capacity. The effect of such incomplete or reduced achievement, both on the usefulness and consequent happiness of an individual, is obvious. The fundamental condition of the advantageous development of increasing power, *i. e.*, of the degree and permanence of power, is accordingly interest.

II

From the foregoing it appears that incentives and power may be cultivated by all the subjects in the course of study, each subject yielding its own peculiar incentives and power. Since these constitute our common measure of educational values, we should therefore accord equal educational values to all subjects, provided only that they develop interest; for, as we have seen, interest means incentives, and incentives lead to activity which may develop power. But we have still to compare the incentives developed through the different subjects with each other. If we find certain subjects yielding higher incentives than others, or subjects richer in incentives than others, we must accord to such subjects a higher educational value than to the others.

Character and disposition, so far as they are determined by education, depend on social and ethical incentives and wise discipline. Sound health, good character, and a generous disposition being secured, the extent and quality of a man's usefulness and happiness are determined (1) by the harmony of his interest and capacity with his life work, and (2) by the scope of his participation in the varied interests of life.

Important aims of education must therefore be to subject the pupil to the influence of social and ethical incentives, to render him responsive to the varied interests of life, and, as he grows older, to discover what his permanent interests and capacities really are. These aims can only be promoted by a wise use of the course of study. Before we can make such a use of the course of study we must examine the different subjects of instruction in order to ascertain, if possible, (1) the characteristic incentives and (2) the kind or kinds of power, which under good teaching (instruction and discipline) the several subjects may develop.

The subjects of instruction deal with human experience, conduct and achievement including concrete as well as mental products, and external nature ; namely:

(1) Languages and literatures; (2) history; (3) art (including music, painting, modeling, etc); (4) philosophy (elementary psychology and logic; introduction to the history and theory of education); (5) mathematics; (6) physical and biological science; (7) manual training.

Of these subjects, literature and history, and also some forms of art and portions of philosophy have an ethical content; *i. e.*, they portray, directly or by contrast, the highest ideals of achievement, "beauty, honor, duty, and love," and reveal the effect of these ideals on human aspirations and conduct. These ideals are the highest ideals of the race. When they dominate the actions of men, they usually insure the best and most complete usefulness and happiness. The incentives growing out of these ideals are therefore higher than all others. That is to say, ethical incentives are the highest incentives.

Hence, when language and literature, history, and appropriate portions of philosophy and art develop interest, these subjects have a higher educational value than all others; for they are not only rich in possible incentives, but they embody also the highest incentives; and through interest they may develop permanent habits of thought and action in harmony with those incentives.

Without interest these subjects can have only a moderate educational value in spite of their content; for they cannot be economically employed to develop desirable habits of thought, achievement, and conduct that give promise of permanence. That is, they cannot be advantageously employed to develop usefulness and happiness. They have a moderate educational value, even without interest, because, even without interest, they may be used to develop, although wastefully, the virtues of work through urgent extraneous motives; moreover, these subjects are needed for ethical and social enlightenment. No human being should be a stranger to the highest ideals of the race, since everyone can be influenced to some extent by them. Hence, the subjects embodying these ideals have some educational value for all pupils, and all pupils should be required to give sufficient attention to them.

The other subjects named (mathematics, natural science, and manual training) either have no social or ethical content whatever, or involve social and ethical incentives, *i. e.*, incentives affecting human relations only incidentally; and mathematics is especially narrow in the range of its possible incentives: Hence, without interest, these subjects have only feeble educational value of any sort. With interest, these subjects may be advantageously used for the development of habits of efficiency, *i. e.*, of thorough and successful achievement. Such habits render their possessor useful, and usually happy; and hence the subjects which develop these habits possess an educational value dependent on the kind and degree of usefulness and happiness which they develop. But as the usefulness and happiness of an individual are not of the highest order unless they are determined by the highest ideals, and as these ideals are usually not involved and are not necessarily involved at all in the pursuit of the subjects now under consideration, these subjects are, in general, inferior in educational value to those of the group first considered.

III

I have now formulated in general terms the educational values of all the subjects of instruction, and have found these values to consist in the incentives to activity and the power based on these incentives which they severally may develop. We have found the relative educational values of the several subjects to consist in the richness of the several subjects in incentives, and in the relative values of the incentives they are capable of yielding. We have found the highest incentives and the greatest variety of incentives in the group of subjects dealing with human conduct and achievement, and hence for those pupils in whom these subjects develop interest we have found that these subjects have a higher educational value than all others. It remains to apply these results to obtain an estimate of the relative educational values of the different subjects during the two stages of elementary or primary and secondary education.

The special aims of elementary education are:

(*a*) To nourish the mind of the child through the course of study which should comprise an orderly presentation of the whole field of knowledge, and to provide the opportunity for the exercise of all his powers, mental, moral, æsthetic, manual, or constructive, through good instruction and wise discipline; (*b*) To guard and promote his normal physical development.

In the earlier stages of this period there are not, of course, distinct subjects at all: there is simply the diversified field of closely correlated knowledge; and because everything is interesting and equally yields incentives to activity, it is difficult, with possibly one exception, to think of different educational values for the different forms of activity. The one exception is the mother-tongue. This is the instrument of all the pupil's acquisitions and of common intercourse with his fellows. Moreover, it is the embodiment of rich stores of information and of the highest ideals of the race. If instruction in the mother-tongue is not limited merely to the study of its form and structure, but really serves primarily, as it should, as the means of exploring and interpreting both the world of external nature and the world of man, the mother-tongue will be richer in incentives and possess higher incentives than all other forms of knowledge; and it may therefore have a higher educational value than all other subjects.

Continuous development from the stage of early childhood covered by the period of primary or elementary education into the stage of later childhood and youth covered by the period of secondary education[1] does not involve the abandonment of these aims, nor does it alter essentially the relative importance of the mother tongue as the field of knowledge gradually diverges into distinct subjects, until the pupil arrives at the later stages of this period. On the contrary, these aims must continue to influence the pupil's education throughout the entire formative period. But they are subject to some modification. The pupil's mind must still be nourished, but it is no longer possible for him to pursue simultaneously the elements of all knowledge, when that knowledge has diverged into distinct subjects, except within certain well-defined limits. During this stage, the pupil's individuality, his own tastes and capacities emerge, as the knowledge to be acquired diverges more and more into distinct subjects.

The distinct emergence of these tastes and capacities is natural and inevitable. The clear recognition of them during the period of secondary education is important for the sake of the ultimate organization of the pupil's mental life through dominant groups of ideas. Through these dominant groups of ideas, *i. e.*, through his permanent incentives, the pupil's life habits are gradually formed, and his mental life acquires the richness, stability, alertness, and vigor on which his highest usefulness and happiness depend.

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[1] Roughly speaking, this period comprises the later years of what is now the grammar school period and the whole of the high school period, and often beyond.

The special aim of secondary education and the teacher's greatest responsibility—a responsibility not often recognized or acknowledged hitherto—therefore consist in the discovery and the special development of each pupil's dominant interests in so far as these interests represent possibilities of development in harmony with the general aim of education, and the constant use of the course of study as a means of intelligent experimentation until the pupil's self-revelation is complete. During this stage, therefore, as the pupil advances, the relative educational values of the different subjects for each pupil correspond more and more to the relative degrees of interest they develop.

It is manifest that, in the application of this principle in practice, great care must be taken that caprice or chance interests do not dissipate the pupil's powers or narrow the whole range of his development. Flexible programmes with a wide range of electives are needed, but it must be remembered that the test of real interest can only be revealed by intensiveness and continuity in the pursuit of a subject during a sufficiently long period. What that period is, the judgment of the teacher must decide in each case. But the proper application of this principle will lead to that supremely desirable, although, at present, apparently unattainable result, that each man while still a youth will learn to know his powers and defects, and will be aided to select deliberately that calling for which he is best fitted by nature. Though at present apparently unattainable, this ideal as the result of all our educational endeavor does not seem to me by any means beyond our reach. Who can doubt that we should strive to attain it?

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II

THE EDUCATIONAL VALUE OF THE ANCIENT CLASSICS

When a teacher of the classics is suddenly asked what is the educational value of Greek and Latin, he is apt to be taken aback, like an orthodox theologian who is asked to explain the value of Christianity or a professor of morals who is called on to state definitely why we ought to be good. We do not have answers ready to questions which we are never asked, as we do not build walls to guard positions which are never attacked. I do not understand that any serious attack is now made by educated men upon classical study as an important department of education. The only difference of opinion concerns the necessity of this study for all literary men: this question, however, is not before us to-day.

The claim of the classics to recognition in our systems of education is based partly on the position of the Greek and Roman literatures in the history of literature, and partly on the position of the Greek and Latin languages in the history and development of language.

The literature of Greece is a phenomenon unique in history, before which the world has stood in amazement for twenty centuries. Poetry in all its forms, history, philosophy, and oratory are there represented in masterpieces which have been models for all succeeding generations, and which still retain their original freshness and vigor undiminished, even after the lapse of ages. And this literature has the special charm that it was the spontaneous outburst of the cultivated Greek mind, which had no forerunners to imitate and no models to copy, but created, developed, and brought to perfection each form of its literature by its own unaided genius. It developed epic poetry, even before the dawn of authentic history, from simple ballads to the perfection of the *Iliad* and the *Odyssey*. This first creation of the youthful genius of Greece was hardly complete, before the bright flower of lyric poetry suddenly burst forth in full bloom from every rock in the Ægean. The perfect lyric thus followed close upon the perfect epic, and in later times the Lesbian Sappho was styled The Poetess as Homer was known as The Poet. The Grecian lyric is best kown to us now by the odes of Pindar. But a full generation before Pindar's song was heard at Thebes, the Dorian lyric had suddenly developed on the soil of Attica the grandest form of poetry which the world has ever seen—the tragic drama. From the rudest beginnings Athens in less than a century brought the tragic art to its perfection in Æschylus, Sophocles, and Euripides, and left absolutely nothing for successors to add to it. Modern tragedy has indeed omitted (perhaps wisely) some of the greatest charms of the Attic originals, especially the choral song, which was the historic basis of the whole; but it has added nothing to their dignity or their beauty. Comedy soon followed tragedy at Athens, rising with equal brilliancy from equally small beginnings until it culminated in Aristophanes, who shared the Attic stage with Sophocles and Euripides. The same wonderful century saw the writing of history advance from simple annals to the comprehensive work of Herodotus and to the later philosophic history of Thucydides. This great historian has always stood as a model for all time of scrupulous impartiality, of untiring diligence in searching for truth, and of keen insight into the causes and the connection of events. Athens now became the home of orators of matchless eloquence, and of philosophers who propounded and discussed with subtlety and skill most of the important problems with which philosophy is still struggling with hardly better success.

We must remember that, of this wonderful mass of original literature, every department of which was stamped with the genius of the Greek race, "we possess," as Grote says, "only what has drifted ashore from the wreck of a stranded vessel"; but some law of the survival of the fittest has fortunately brought to our distant shores the choicest part of the precious cargo. No other literature in the world contains so large a proportion of veritable masterpieces; and these masterpieces have an additional historic value as the works of men who were pioneers as well as masters in their art.

When Greece had ceased to devise new forms of literature and to carry to greater perfection her earlier inventions,—partly because no new fields were left for her to conquer,—Rome appeared upon the stage in the double character of ruler and subject, and skillfully assimilated the literary material which she found in Greece, at whose feet the conqueror soon sat as a willing pupil. By making Greek learning her own, Rome became a mighty power in letters as well as in arms. The torch of learning, kindled in Greece, now burned brightly in Rome; and Roman poets, historians, orators, and philosophers revived the true spirit of the best days of Hellas on the banks of the Tiber. The literature of Rome, which a distinguished scholar has compared to the brilliancy of the full moon following close upon a splendid sunset, apart from its native power, has done much to interpret to Western Europe the Greek originals. It kept alive in the West, though sometimes with a dim and flickering light, the spirit of scholarship and the pride of learning, during the long period while the Roman Empire, with its seat of power transferred from the Seven Hills on the Tiber to its grander throne on the Bosphorus, was cherishing the original flame of Greek learning until the day when it was to return and aid in awakening Europe from her long slumber. Since the revival of learning the Greek and Latin classics have been powerful agents in the development of the literatures of modern Europe, and no study of these literatures which leaves out their classic models can be anything but superficial. Modern literature could never have been what it is without the help of Greece and Rome; and he who undertakes to be learned in the modern while he despises the ancient as "dead and gone" is saved from mortification only by his lack of the knowledge which he needs to understand his own ignorance. If any literature was ever providentially devised to be a fitting foundation of literary culture, it would seem to be this of the ancient classics, which so exquisitely combines the original Greek masterpieces with their Roman successors and with much that is due to the original genius of Rome herself.

But apart from the historic claims of Greek and Roman letters to this important position, the study of the classics has had a powerful influence for good by uniting scholars in a common literary interest. It is the greatest stimulus to literary activity to have a recognized body of literature which is the common possession of all scholars, with which all are familiar, whose masterpieces are accepted by all as models, and which upholds a high universal standard of literary taste; in short, which is recognized as classic. There is a contagion which comes from such a community of interest which is wanting when scholars are working in many different fields with no bond of union. This acknowledgment of the authority of certain works of genius in matters of taste, especially when they are products of a distant age, cannot hinder the free development of literature on modern lines and with modern views, any more than the universal respect paid to the masterpieces of ancient art fetters the genius of modern sculptors. Good taste is not confined to any age or to any department of letters or art; and he who has cultivated it in one line will seldom forget it in another.

It may be asked whether all this ancient literature is not accessible to students in modern translations. It is thus accessible to ordinary people in a certain sense, but not to scholars. A piece of literature is not a mere expression of certain ideas. It consists of form as well as of matter. A masterpiece of literature consists of good thoughts expressed in a masterly style by a master of language. In a translation this form is lost. If the translator is himself a master of language, his genius may substitute a new form for that which is gone, possibly one of equal or even superior merit; but it is not that in which the author clothed his thoughts. Pope's *Iliad* has perhaps done as much to make the name of Homer known in England as the *Iliad* itself; but nobody ever learned to know the *Iliad* through Pope, though many have learned from him what gave them genuine literary pleasure. But who ever really studies a literature as a scholar through translations? The very knowledge that he is studying one man's thoughts in another man's language is enough to deter a true scholar from calling this literary study. When a whole literature is relegated to this limbo, its doom as an independent power in the world of letters is already decreed. Freeman, in an Oxford lecture on history, well says: "We master the tongue of Hellas as being in itself the first and noblest form of the common speech; as the tongue which, in its native and unborrowed strength, brought forth the greatest masterpieces of every form of lettered utterance—those masterpieces which none can know save those who can follow the very words of the poet, the orator, the philosopher himself, and who are not at the mercy of some blind guide who vainly strives to reproduce those living words in ruder tongues."

Apart from the Greek and Latin literatures, the languages of Greece and Rome are important, nay, essential, elements in the study of language. No cultivated man, however well he may speak or write by habit or by instinct, can afford to neglect the principles which govern the use of language and determine what is good and what is bad in form or expression. Apart from a few idiomatic expressions which use has consecrated, and which we all agree to use whether we see a principle in them or not, the structure of every language depends on fixed principles which may be definitely stated and learned. Many of these are universal principles of all languages, at least of all belonging to the same family. Now it is next to impossible to make many of these principles clear by means of languages which are so poor in forms of inflections as most modern languages, especially English. A slight comparison of the English and the Greek verb will illustrate this. The English must often use the same verbal form in many different senses, in which the Greek would use different forms. To give a single example—the Greek verb *ποιέω, do,* can be used in thirteen different forms (the present and aorist indicative, subjunctive, optative, infinitive, and participle; the imperfect and future indicative; and the future optative), each expressing some distinction (often a slight or subtle distinction) of meaning or construction; and in all these forms it can be translated correctly and naturally by the English *did.* I do not think I could explain these various uses of *did* clearly and satisfactorily without the help of the Greek. And I am sure that it would aid anyone's linguistic knowledge, or at least make keener his linguistic sense, to see the nice distinctions which the Greek can express by these various forms, the different circumstances under which each can or cannot be used, or the different point of view which each represents. Such considerations are not mere puzzles; they show the English scholar that he must study the history even of a common word that he uses every day, before he can be quite sure that he always uses it correctly and in the precise meaning that he has in mind. It would be useless to multiply examples of cases in which the ancient languages, with their copious inflections and their exact forms of expression, are potent helps to an understanding of modern languages; and, moreover, it is impossible for one to appreciate these helps fully who does not already understand the subtleties of expression of which the classic tongues are capable. It by no means follows that English cannot express every idea as clearly and as exactly as the Greek, provided the English writer knows how to do it; but the Greek will teach him how to do it in many cases where the English alone would sadly puzzle him. A scholar here must not go right merely by habit or knack; he must know why he is right, and he must be able to go right again and to show another the right way and the reason for it.

The abuse or misuse of grammar in elementary classical study has exposed the linguistic claims of the classics to deserved reproach; and the reproach has not ceased with the cessation of its cause. When it was thought that the best introduction to the study of Latin was to give a boy a large Latin grammar to commit to memory before it could be understood, it was justly said that the end was sacrificed to the means. Now a more rational system limits the parts of grammar which are to be learned by rote to the important forms of the language and its essential principles of construction, leaving the details and all the nicer subtleties until the pupil meets them in his reading and really feels the need of explanation. The essential thing is that the classical student shall ultimately appreciate, so far as his powers allow, the full power of the classic tongues to express thought clearly and precisely. Especially, the study of Greek syntax, rationally pursued, gives the scholar an insight into the process of thought and the manner of expression of a highly cultivated people; and while it stimulates his own powers of thought, it teaches him habits of careful expression by making him familiar with many forms of statement more precise than those to which he is accustomed in his own language. The Greek syntax, as it was developed and refined by the Athenians, is a most important chapter in the history of thought, and even those whose classical studies are limited to the rudiments cannot afford to neglect it entirely.

The value of the classics in education has been immensely increased in these later days by the wealth of illustration which now brings Greece and Rome before the eyes of the student and makes him feel that they are not dead, but living and breathing realities. The photographic art has worked a revolution in many departments of classical study; indeed, it has made many forms of classical study for the first time possible. I shall never forget what a revelation came to me when at the age of twenty I first saw a "sun-picture" (as it was called) of the Parthenon, which was brought to this country by my old teacher in Greek, Arthur Hugh Clough, the poet. The schools established in Athens and Rome for the study of classic art and literature are every year bringing more and more classical students face to face with the inspiring scenes of Greece and Italy. These schools offer their privileges (privileges which a short time ago could not be bought for money) to competent students with generous freedom; and the munificence of governments and of enlightened friends of learning supplies many with the necessary means of enjoying them. The increasing number of classical teachers in this country, and in England, France, and Germany, who thus have a living acquaintance with classic lands is a sign that classical study is to be less and less a delving among the dead bones of ancient sepulchres. The poet's prophecy is now fulfilled in a sense of which he little dreamed:

> "Yet to the remnants of thy splendor past
> Shall pilgrims pensive, but unwearied, throng;
> Long shall the voyager, with the Ionian blast,
> Hail the bright clime of battle and of song;
> Long shall thine annals and immortal tongue
> Fill with thy fame the youth of many a shore;
> Boast of the aged! lesson of the young!
> Which sages venerate and bards adore,
> As Pallas and the Muse unveil their awful lore."

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III

THE EDUCATIONAL VALUE OF THE HISTORY OF THE FINE ARTS

In the memorable address delivered in 1867 by John Stuart Mill, as rector of the University of St. Andrews, after a wide survey of the intellectual and moral education which the system of schools and universities is intended to promote—Mill went on to speak of a third division of human culture, "not less needful," he said, "to the completeness of the human being," "the culture which comes through poetry and art, and may be described as the education of the feelings, and the cultivation of the beautiful." And this, he declared, "deserves to be regarded in a far more serious light than is the custom in these countries," that is, in Great Britain. He went on to describe in clear and weighty words the nature and the importance of this branch of culture; words all the more weighty because his own life had been mainly devoted to interests of a different order, so that he spoke in regard to the significance of the arts in education with the authority of one who recognized it from an external standpoint, and without such prejudice in their favor as might have had its source in special æsthetic studies. To English hearers his words were as novel as they were weighty. Nowhere in English-speaking lands had culture in the arts been admitted as an essential portion of education. They had been regarded as of trivial concern; the study of them had been relegated to professional artists or to mere dilettanti, and the idea that a complete and satisfactory education could not be obtained without some knowledge of their character and history, and without such culture of the æsthetic faculties as the study of them might afford, appeared strange and unacceptable to many even of the most enlightened thinkers on the subject of the education of youth.

It was about seven years after the delivery of Mill's address that the chair of the history of art which I have the honor to occupy was established at Harvard, and, so far as I know, it was the first of its kind in our country. By its establishment this great branch of the humanities was recognized as having an equal position in the scheme of college or university studies with the other branches, and as needful a function as any of them in the work of education. It was a noticeable step in educational progress. But although in the last twenty or thirty years there has been a considerable advance in the recognition of the importance of æsthetic studies, so that such words as Mill's would no longer seem as novel as when he uttered them, this recognition is even yet by no means general, and in the curriculum of most of the higher institutions of learning in America and in England no place is given to that instruction which has for its end the cultivation of the imagination and the sentiments, through the refining of the perceptions and the quickening of the love of beauty.

A very recent instance is to the point. Since 1891 the college teachers in Iowa have been engaged in the attempt to define practically the term "College," and in 1893 a report was made by a committee as to what was required in an institution before this term could be properly applied to it. Among other requirements the committee reported that it should have a faculty of instruction of at least eight chairs, as follows (I alter the arrangement of the Report): 1. Psychology and ethics; 2. biological science; 3. mathematics and astronomy; 4. physics and chemistry; 5. English language and literature; 6. modern languages; 7. ancient languages; 8. history and political science. Here, it will be observed, is no attempt to include any instruction in the field in which man has displayed his highest powers, and given the fullest expression to his ideals.

This general failure to recognize the importance of the study of the arts, not in a technical and professional sense, but as the means for culture of those faculties to which all others are subordinate is perhaps not surprising to one who is acquainted with the history of education, and is aware of the fact that a comprehensive, philosophic scheme of education nowhere exists in practice. We are slowly and painfully, and with no great success as yet, endeavoring to work out such a scheme. In every advance toward it the educational importance of the fine arts becomes more and more apparent. I do not speak here of technical education in the fine arts,—that does not belong to general education,—but of knowledge of the history and principles of those arts, by which men give expression to their highest selves:

Let me define a little: all the fine arts are arts of expression, all are addressed to the eye or the ear; all are endeavors after expression in beautiful or impressive modes; all have for their end the awakening of sentiment or emotion, and all have their origin in the imagination of the artist, deriving from it those forces by which they appeal to the imagination of the spectator or the hearer. The imagination is the source of the poetic faculty, and every work of the fine arts is the work of the poet, the maker—the creator, in that limited but true sense in which the faculty of creation may be ascribed to man. Moreover, the imagination is the source not only of the poetic faculty, but of the sentiments by which man is ennobled and civilized. It quickens and enlarges his sympathies, it interprets the teachings of experience, and it shapes the fleeting and delusive shows of things into permanent forms of beauty accommodated to the ideals of mind, the attainment and enjoyment of which is the true end of life.

Now, it is through the study and knowledge of the works of the fine arts, quite apart from the empirical practice of any of them, that the imagination, the supreme faculty of human nature, is mainly to be cultivated; for it is by these arts that the poetic creations of the imagination are embodied, and that the efforts of the creative genius of the finest spirits of successive generations of men to express itself are transmitted as standards of achievement for example and inspiration. And nowhere are such study and knowledge more needed than in America, for nowhere in the civilized world are the practical concerns of life more engrossing; nowhere are the conditions of life more prosaic; nowhere is the poetic spirit less evident, and the love of beauty less diffused. The concern for beauty, as the highest end of work, and as the noblest expression of life, hardly exists among us, and forms no part of our character as a nation. The fact is lamentable, for it is in the expression of its ideals by means of the arts which render those ideals in the forms of beauty, that the position of a people in the advance of civilization is ultimately determined. The absence of the love of beauty is an indication of a lack of the highest intellectual quality, but it is also no less an indication of the lack of the highest moral dispositions. For, as Goethe says with truth, the Beautiful is greater than the Good, because—I cite again from Mill—"it includes the good, adds something to it; it is the good made perfect."

Now, if this be recognized and admitted, it is plain that there can be nothing of greater importance in education than the culture of the love of beauty, and this culture can be promoted in no other way so well as by that study which deals with the creations of the imagination; in a word, by the study of poetry, not only in literature, but in every art whose works are an expression of the poetic impulse and faculty.

Not one of our institutions of learning has yet recognized the full importance of beauty, and the necessity of its culture not merely in the lecture room and the closet, but by the means of the outward forms of the school or the university itself, in its ceremonies, in its buildings, in everything within its compass which shall meet the eyes of the students committed to its charge. Here, at Harvard, the university which sets an example and a rule in many ways to every other institution of learning in the United States, the neglect in regard to this essential feature of education is deplorable and discreditable. To take but a single illustration: the ugliness of most of the buildings erected during the last twenty-five years; the defects either in proportion, position, or ornament of every one of them; the disregard of noble architectural effects to be obtained by the proper relation and combination of the various edifices, have produced a result of which the evil influence will be felt for centuries. A great opportunity for giving such aspect and form to the university that its beauty should operate, with often unconscious but yet unquestioned power, upon the character of the Harvard students for an indefinite succession of generations, has been worse than lost. A great educational influence has been perverted. And there was no need thus to waste it. Nothing has been saved, nothing has been gained by the waste. And this grave misfortune is due to the lack of concern for beauty, and the lack of knowledge of the fine arts, not only among those directly responsible for the buildings, but among the community of which they are the representatives.

The study of the fine arts can be pursued in America only under serious disadvantages. Few examples of their work which might serve as standards for emulation, or which might foster the imaginative faculty, have been produced here. In the absence of national feeling for art, and in the prevalence of conditions which hinder the growth of desire for expression by means of them, such instruction as can be given in their history and principles must, of necessity, be hampered by the incapacity of the students to recognize its value through any personal experience, or through responsive sentiment potentially existing, but not yet called into activity in their own minds. Such instruction as it may be in our power to give should, of course, be primarily directed to quicken the poetic imagination; and this may begin very early with the effort to inspire in the pupils a love of poetic literature. The child who shall have learned to care for simple poetry in verse, the youth who shall have been taught to appreciate more or less fully the beauty in Shakspere or in any one of the splendid succession of the greater English poets, will have had his perceptions and his imagination roused to a degree which will enable him in some measure to feel the significance of the beauty embodied in the proportions of the Greek temple, in the forms of Athenian or Florentine sculpture, in the design of the Gothic cathedral, in the color of Venice, in the melody of Mozart, in the symphony of Beethoven. If he can be taught to recognize and to feel the true significance of these things, he will have been taught the lesson of shaping his own work, whatever it may be, into the most perfect form which his imagination can conceive for it; and in thus shaping his work, he will be shaping his own character and life, learning to make them beautiful, and thus to bring them into conformity with the ideal of his mind.

I have not exaggerated the educational importance of the study of the fine arts. I am confident that, however unprepared the community may be to accept it as correct, reflection upon the subject will not lead to dissent from the proposition that our scheme of education is essentially defective so long as it fails to include the culture of the imagination as one of its chief ends, and the study of the fine arts, or, in other words, the study of poetic expression in all its forms, as the chief means for the accomplishment of this end.

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IV

THE EDUCATIONAL VALUE OF MATHEMATICS

However real the educational values of mathematics may be, they are many-sided, variable, elusive things. In the first place, they have no existence apart from the student of the subject. Those eternal relations of quantities the discovered portions of which make up the body of mathematical science exist, indeed, apart from the human mind. But we cannot conceive of mathematics as having educational values except as we think (1) of the worth of the interplay between the mind and such sections of mathematical science as it may deal with, and (2) of the serviceableness of the knowledge thus gained.

As to the quantity needed for serviceableness, what would be ample for a society belle or a grocer's clerk would be meager for a Radcliffe girl or a civil engineer. And when it comes to settling the precise mental values of the interplay spoken of, a kind of mental chemistry begins to work that quite confounds our theorizing, and forbids our predicting with entire certainty the qualities of the product from the known things that contribute to it. It makes us a little less dogmatic, if we look upon an educational value as binary, as something different from what subjects and methods of teaching on the one hand and the dimly seen data of heredity and environment on the other would lead us to expect, but a curious compounding of both, a value to be determined, so far as such a subtle thing can be studied, by experiment rather than by speculation.

For one, I am glad we cannot express either quantitatively or qualitatively the precise educational value of any study. I rejoice in the ever receding bounds, in the never withdrawn challenge, in the always present mystery, of an educational value. It is well to walk by sight, at least in part, but there are sides of our nature that would be left fallow if we did not also walk to some extent by faith.

Still, mathematics is a recognized subject of study. It has its place, the enlightened world over, in the curriculums of all grades of schools from the primary to the college; and it is, therefore, pertinent to inquire what its values are, even if it is impossible fully to define their quality or to measure their quantity.

In this discussion I will limit myself to those lower branches of mathematics that are taught in our public schools—arithmetic, algebra, geometry, and trigonometry.

There is, first of all, the conventional value, that which arises because it is customary for all but the illiterate to have some acquaintance with mathematics. This conventional value holds some relation to the real usefulness of mathematics, but not necessarily a close one. A kind of conservatism often keeps a conventional value alive after the usefulness which created it is gone. This value is one thing for the masses, a higher thing for those who would become physicists, engineers, and the like. And the conventions of any particular class are themselves fluctuating; for, if we compare modern text-books in arithmetic with old ones, we find many subjects and methods once thought indispensable now altogether abandoned. I see no signs, for instance, of those grindstone, circular-farm, or conical-haystack problems that some of us used to wrestle with when we were boys. The sanity of the teacher who to-day should require of a pupil the solution of Greenleaf's problem of the seventy-two brilliants would be sharply questioned.

The direct utilitarian value of arithmetic—its value to the breadwinner—has been much overestimated; or, perhaps, it is nearer the truth to say that, while accuracy and speed in simple fundamental processes have been underestimated, the value of presenting numerous and varied themes in pure arithmetic, and of pressing each to great and difficult lengths, has been seriously overrated. When the curriculum was limited to the three R's, it was inevitable that that R which lent itself most readily to purposes of mental discipline should be worked unduly. The extremes to which arithmetic as a pure science has been pushed in our schools, to the joy of some and the grief of more, is really a sharp reflection upon the system that permitted such disproportionate extension.

Arithmetic, as a separate elementary branch, may well be put aside when the pupil has learned to add, to subtract, to multiply, to divide, and to perform these operations both with integers and with common and decimal fractions; provided there are added simple cases under denominate numbers and easy applications of percentage and proportion.

The utilitarian value of geometry as a subject for the elementary schools has not been sufficiently appreciated. Formal geometry is out of place, of course, for young children; but geometry that involves the judgments of the eye, the discernment of relations, short steps with the reason, the use of instruments, the play of the inventive and constructive faculties, and all that, is admirably suited to childhood, and, like arithmetic, has a high utilitarian value in that its elementary facts enter so universally into industrial pursuits.

I need to say here, what will be brought out later, that it is impossible to extract even low utilitarian values from arithmetic and geometry without, at the same time, using these branches for some measure of discipline and culture. And the same statement holds good when we come to that higher grade of utility which we find in the associative use of mathematics, that use in which we employ mathematics to give definiteness and precision to ideas of quantity in such studies as geography, botany, physics, chemistry, astronomy, and even history. These studies all abound in propositions that do not readily reveal their full meaning until they are mathematically conceived. So long as this meaning lies buried in them, they are barren of value.

Take, for example, the law of definite proportions in chemistry, that a given chemical substance always contains the same elements in the same proportions. It is not until the pupil grasps the thought that in one pound of water, for instance, we have one-ninth of a pound of hydrogen and eight-ninths of a pound of oxygen, that this ratio of one to eight is found in water from the molecule to the ocean, and so on, that the law begins to have full meaning for him. And so for all statements that admit of mathematical illustration and expression.

This associative or correlated use of mathematics looks two ways at once. There is, on the one hand, the increase of skill gained in using the instrument in its application; and, on the other hand, there is the service rendered by such use in revealing more clearly the exact content of what is affirmed. Moreover, when two principles, one from natural science and the other from mathematics, are welded together in this mutually helpful way, the mind's chances of summoning either into consciousness are much enhanced. In other words, the mind's mastery of such possessions for instant use is strengthened.

When a principle of physics is mathematically expressed, we may by pure manipulation arrive at conclusions difficult to reach in any other way or, in the case of intricate formulæ, impossible to reach in any other way. Herbart is right when he says, "By mathematics, scientific accuracy is gained for the fundamental ideas." He might have added, and still have kept within the confines of truth, that there are science highways that would be closed to travel without mathematics.

Thus far, I have touched (1) the conventional value of mathematics, which may or may not be the same with the utilitarian value, (2) the utilitarian value, and (3) the associative value, or that which mathematics has because of the service it renders in the study of other subjects. These are largely, but not wholly, what may be called the instrumental values of mathematics.

We set them apart from the culture values, indeed, in order that we may fix our mental gaze upon them, and yet they cannot, however humble, be really divorced from these culture values. These latter might be considered in connection with the training mathematics gives to the senses, the memory, the imagination, to the mind's power of conceiving, judging, and reasoning; and even with the pleasurable activity mathematics may excite in the emotional nature. Without venturing into much detail, I may say that arithmetic and geometry, which should run parallel with each other from the lowest grades, have no mean value in the training of the observing powers. Of course, I refer now to objective arithmetic and geometry—to these studies in their simple, natural, and close connections with objects of study that appeal to children, such as plants and animals, the phenomena of nature, etc. There are innumerable facts of line, form, size, number, distance, surface, contents, weight, etc., about such objects; and they are admirably fitted to incite something more than mere looking at things. Indeed, the only observation that is really developing is that which provokes thought; this thought, in turn, leading to still closer observation. The interest aroused in children by an object extends to quantitative facts about it as well as to its color, sound, use, or beauty; and so long as the study of number, size, and form is correlated with interesting things, there may be said to be sense-perception culture in the study of arithmetic and geometry. In other words, I see no reason why we may not in any observational work distribute the varieties of mental activity it excites, such as noting, estimating, comparing, judging, and constructing, among numerous subjects in a curriculum, not omitting arithmetic and geometry, and this is equivalent to saying that these two subjects have an observational value.

When children, following their bent, enter the realm of form and number with their little thoughts, and are skillfully led from step to step in delightful association with things they like, they may gradually part company with things obtrusively concrete and enter the realm of the abstract. Thus mathematics as an applied branch gradually gives way to mathematics as a pure branch, and the interest excited by the one gradually passes over by a kind of enticement to the other. One great purpose of school training is to strengthen power in this field of the abstract. The attainment of such power means graduation from leading strings; it means emancipation from the thraldom of matter; it means the pluming of wings for flights of which the birds know nothing. Life in the senses does not, indeed, come to an end, but a new life is opened in the world of thought. Mathematics is a means—not the only one, of course, but a valuable means—of exploitation in the realms of the abstract. This is particularly true when that pure arithmetic which follows the applied gives place to universal arithmetic or algebra; and when objective geometry gives place to a geometry divorced from things—a geometry that has a house of its own not built with hands, but reared in an airy way from unsubstantial axioms and definitions. Here, as in the lower stages of objective mathematics, little can be accomplished without interest; but if the methods of work accord with the laws of mental growth in the individual, interest is pretty sure to be kindled and to feed its own fires.

Man is pre-eminently a creature of reason; and his reasoning usually runs in one or the other of two principal channels—the one inductive, the other deductive, as when (1) he rises from particulars to the general, and as when (2) he descends from the general to particulars. A complete training recognizes both sorts. The good reasoner is as anxious to establish sound premises as to extract from them their contents; he is equally sound in synthesis and in analysis. It is idle to say, however, that excellence in either necessarily carries high attainment in the other, since in inductive reasoning there are various grades of confidence in the conclusions that may be reached, while in deductive reasoning, if the pitfalls are avoided, there is certainty in the conclusions. The former requires the gathering of data from the world and under difficulties; the latter may be complete in the solitude of the mind.

Now, in mathematics, and especially in formal geometry, we have the best possible arena for training in deductive reasoning. I know the modern debt of physical science to inductive methods. I am aware that deductive reasoning did not become fruitful in outward results until it was tied down to premises carefully worked out and established. There was never a time, however, when it was not fruitful in mental acumen. No one has ever doubted the intellectual keenness of the mediæval schoolmen. Such wretched data as they had they used most skillfully. They whetted their minds well, if they did not add to the world's store. The pupil needs to be trained to inductive methods, indeed, and he may receive such training in the physical sciences, and even in the beginnings of mathematics, but he needs to be trained in deductive methods as well. Deductive reasoning, moreover, is a necessity in certain stages of inductive reasoning. The two sorts supplement each other. The value of each is enhanced by the other. While it does not follow, as I have already admitted, that excellence in either assures excellence in the other, I have noticed that when the writers on logic deal with either, their treatment of it seems to be general; that is to say, the laws and fallacies of either kind, once given, seem to have a bearing upon and a value for all phases and applications of that kind.

Is the power gained in mathematics a general store upon which the mind, in its varied exercise, may draw? To a certain extent, I think it is. Mathematics is one of the virile studies. It is not grateful to weaklings. It yields scant results to half-hearted, desultory attacks. It lays a tax on the mind; it insists on progressive and sustained effort; it demands closeness of attention and concentration of energy. The mind that bears up under the steadily increasing tension of such work grows in a kind of all-round mental strength that is always available when close, concentrated, persistent, desperate mental work is wanted. Such mental robustness is analogous to that all-round physical vigor which, though it does not permit the instant transfer to a new line of work of that expertness which has been attained in an old line, nevertheless serves as a well-stored reservoir of energy for any physical drafts upon it. This is not an argument for the study of Choctaw or whatever taxes the mind without reference to its content or substance. I would not use it for mathematics if I did not have faith in the other values of mathematics.

All that I have to say about educational values is conditioned upon sound methods of instruction and study—methods that capture the interest, supply the will with motives, enlist the reasoning powers, favor original thought, and put the student on his intellectual mettle. The methods need to be so graded as to give the student the consciousness of power. This consciousness is a pleasurable state for him. And such pleasure is one of the great determining influences behind the will. Pleasures impel and pains inhibit, and their power is tremendous, especially in the young. Hence the stress placed on exciting interest in children and relying on this interest until a goodly company of high determining motives can be assembled about it, to re-enforce it or take its place if it should ever retire from the field.

Now one peculiar advantage of right mathematical work lies in the completeness and accuracy of the results attainable. Most kinds of study are like woman's work—they are never done. There is a rawness and lack of finish about them as in in a schoolboy's composition. I am not underrating the value of study in English, in history, or in any of the vast, indefinite, and never-to-be-compassed fields. I am simply saying that the demonstration of a theorem in geometry, for instance, may be brought to a kind of finish and completeness impossible in a paragraph about the character of Henry VIII or the causes of the Civil War, and that the student enjoys a unique consciousness of power in mathematics when he brings a piece of work to a triumphant end. Interest is a natural companion of such consciousness of power. Such interest has enduring qualities. Mathematics is peculiarly rich in challenge and incentive to try conclusions with things, and in opportunities for complete and indisputable victories. I have noticed that when boys and girls in geometry, for instance, become once imbued with a thinking, investigating, inventive spirit, and with that conception of a proof which gives the child who has it confidence to stand against the world, the subject has a peculiar fascination for them. They work with enthusiasm; the real student glow is there; the inspiration continues operative away from the special influence of the classroom; and the emotional excitement of the "Eureka," when the way has been discovered, is hardly equaled in any other student experience. These results, however, are grapes of Eshcol in the Promised Land. It is a land which some never reach, but which more might enter if mathematics could be more wisely taught. My Bowdoin professor, William Smyth, fairly reveled in his explorations there. He was a living demonstration of the possibility of the union of mathematical study with a passionate glow. He fondled his calculus as a mother her child, only his terms of endearment for it were in a more exalted rhetoric, for he was wont to use such epithets as "astonishing," "superb," "sublime."

Of course, mathematical studies do not and cannot energize all forms of mental action equally, but they cannot be neglected without depriving the mind of a means of training which no other subject can make good. Such studies in conjunction with physical science make up an indispensable half of the shield of intellectual training.

It should be noted, before I leave my theme, that mathematical study gives fine facilities for the close and accurate wedding of the language to the thought in the sentence, and of thought to thought in the paragraph. The conception thus acquired of the use of language is a precious one to carry into all written work. I am impressed with John Fiske's remark about the scholarly Taine, that he received precisely that training that a literary man needs, namely, that which comes from the study of mathematics and the physical sciences.

Such values of mathematical study as I have touched may be summed up as follows:

1. A conventional value that ranks with the value of reading or writing, or any other subject commonly regarded as indispensable—a value with or without the element of utility.

2. A simple utilitarian value so great as to forbid the removal of mathematics from any curriculum.

3. An associative value that cannot be spared in a liberal education, particularly in science training.

4. A pronounced value, in objective forms of study, for sense-perception culture, with accompanying values in the elements of thought-culture.

5. An unsurpassed value as a means for training in formal deductive reasoning.

6. A disciplinary value because of the special seriousness of its drafts on the mind's power of attention, concentration, and persistence of effort.

7. A unique value in the facilities it offers for bringing things to a head and finish, and giving that consciousness of power over difficulties that quickens the soul and spurs to higher endeavor.

8. An interesting value in affording special practice facilities for such accurate adaptations of language to thought as young people can appreciate.

I do not profess to give all the educational values of mathematics, since the individual is a potent and variable factor in them. Nor do I attempt the audacious task of applying a marking system to such values as I touch to show by percentages or otherwise their relations to one another, or how they compare with corresponding kinds of value for other subjects. Moreover, I desire to recognize and guard against that seeming exaggeration of values which is due to an attempt to isolate them and to consider them one by one. In reality, they are all woven inextricably together among themselves and with other values, each value modifying and toning every other in ways whose special consideration belongs, I suppose, to the study of what is known as apperception.

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V

THE EDUCATIONAL VALUE OF HISTORY

My subject sets its own standard of value—it is "power to educate": the question put me is virtually, "What is the power of history to educate?" To answer it I must know what education is and what history is. My paper therefore divides itself into three parts: an analysis of the nature of education; an analysis of the nature of history; the discovery of the ratio between them.

EDUCATION—What is Education? A drawing forth of the nature of man. We are no wiser. The statement is too general. The specific elements of the nature of man must be understood before we can get a practical answer to our question.

I should be untrue to the necessities of thought if I did not once more call your attention to the inevitableness with which every discussion of educational import, not wholly superficial, resolves itself finally into a philosophical discussion. Philosophy is the rock upon which education is founded; and the true educator must pierce to its depths. Perhaps you will let me put before you dogmatically a formula which sums up in practical shape the results of my own years of study of the nature of the Ego: "Man is the activity of relating the ideal and the real; education in general is the development of man's powers to frame a noble ideal of life and to realize this ideal."

What sort of ideals must man frame? The individual seeks first self-preservation, but he is not an absolute; he stands in necessary relations; his nature is organic, and he is only a part of a larger whole: it is impossible to conceive one man alone. Hence man's ideal of life is of necessity the ideal of a self-preserving organism; he sees as his ideal a multitude of individuals welded together in a great organic whole, where the preservation of the individuals, in the entirety of their actual and potential natures, as far as is reciprocally possible, is insured by the strength of the whole; and where the preservation of the whole is insured by the subordination of each individual to its organic laws. In other words, man's nature is such that his highest ideal is, of necessity, the ideal of a state, whether the state take the form of a Kingdom of Ends, the Kingdom of Heaven, or a world-federation of republics; the loftiest conception of which the human mind is capable, and one to which it is irresistibly driven by its own nature, is the conception of a state.

What powers are involved in this conception? Obviously the powers which distinguish the relations that should obtain among men, and which we group under the name "ethical intelligence." Ethical intelligence is reason, but reason exercised in a special field, the field of the moral relations. It perceives, through obedience to the laws of thought, that the many are "made perfect in One," that the well-being of each depends upon the well-being of all, since we are members of an organism. After this fundamental truth has been comprehended, it seeks to discover exactly what relations are organic, to grasp the real significance of each member, its proportionate importance in the total, to harmonize the multitude of diverse values in a righteously adjusted whole. Ethical intelligence, which is a divinely necessary selfishness, since the Ego can never transcend Self to find an Other, is the first condition of self-preservation, hence is the primal need of man.

Secondly: man's nature is organic, not only in that the existence of one man involves the existence of other men, but in that each man is a highly differentiated complex of activities. This complex, for the sake of convenience, we divide into the functions of feeling, knowing, willing. Man's ideal of life demands from each individual thorough organization of these functions that they may strengthen one another and all tend to one end. Hence man's nature obliges the ideal of the state which he frames to contain, as its ideal members, men, each one of whom understands and controls his own nature, and develops it in its own special direction. This individualization of life, which is the latest and richest result of civilization, is of the highest importance, for the fullness of the life of the organism depends upon the distinct specification of its members. It demands, as its condition, psychological insight; hence the psychological powers, or reason in a new field, must work at man's common task.

Thirdly: organization, whether of state or of individual, is possible only where the universality of law obtains; hence each individual must be able to recognize law as law, *i. e.*, to discern the essential of law—universality, freedom from self-contradiction, exclusion of every self-destructive principle. This work is done by the logical faculties, or by reason in a third field.

Fourthly: the ideal of life, which it is a part of man's common task to evolve, begins to take shape before us. But in our analysis we have as yet neglected the central fact of man as a conscious being—the central fact which shapes the human world and directs its activity: there is no universal consciousness: man's ideal is not framed by one absolute mind; it takes shape first in the individual mind, where it is of necessity partial and incomplete, and in so far wrong; it can be made right only by being corrected and supplemented by all other ideals. Such modification involves each man's getting the points of view of the rest of the world; this getting we call study: study is the effort of the individual to learn the conceptions, the ideals, the points of view of other individuals, that he may make possible the interaction and rationalization of all ideals. Such acquisition of knowledge demands the exercise of man's acquisitive powers, or reason in a fourth field.

Fifthly: this composite ideal, shaped in conscious obedience to law, of a multitude of thoroughly organized lives welded into an organic whole, man is to make real. The making real of a clearly seen ideal depends upon the Good Will. But the Good Will, if we are free-will beings, no other can strengthen, no education can foster. The free-will, in so far as it is free, is uninfluenced; in so far as it is influenced, is not free; it is the matter solely of the individual, because it is his individuality. Hence the development of the Good Will has no place in a system of education.

It follows from this analysis of man's common task—the development and real-making of a noble ideal of life—that the special powers, subject to education, which he needs in its accomplishment, are the ethical, the logical, the psychological, the acquisitive. In every human being these powers must be primarily trained, and the community must make such training compulsory, for its own preservation is involved therein. Such training is general education. The training of the powers needed for the particular tasks of private life may be left to the self-interest of each.

HISTORY—My second question is, "What is the nature of history?" The answer to this question is of the utmost importance, for there is an almost total misconception of the pedagogical nature of history. This misconception lies at the root of the complaint of teachers that history has no educational value, and allows them to substitute complacently for the true teaching of history simple quackery, *i. e.*, to do work which requires scientific knowledge with the equipment of a mere empiric.

History is the record of life: as the record of life it must reckon with the two sides of life; it, too, has the region of the ideal and the region of the real, and in history, as in the world it mirrors, the true struggle and the determining issue are found in the ideal.

In this region of the ideal lie those systems of thought which man has developed in his attempts to rationalize his activity in doing his common task. These systems naturally build themselves upon the different fields of his work: the one which seeks to put before the mind a consistent view of what the state should be, that the nature of man may find adequate expression, we call political philosophy; the one which, after classifying man's practical efforts to realize his ideal of state, aims to ascertain their causal relations and to frame laws for the regulation of political life, is political science; the one which seeks to discover the relations that reason establishes between men in private life, is ethics, while that which concerns itself with public conduct is jurisprudence; the one which attempts an exposition of principles underlying and controlling industrial organization, is political economy; that which disentangles the laws of self is psychology, and that which seeks the laws to which social phenomena conform is sociology.

The real side of history is, of course, the concrete facts in which these theoretical studies find their illustration, and the true teacher uses them only for such purpose. The facts of life are the substance that the mind relates; recorded facts are raw material for analysis, classification, arangement in causal sequence, deduction, etc.; they exist to be judged and related, and have value only in proportion to the thought wrought into them; as mere facts they are mere lumber—worse than useless, for they impede activity. The real is always the concrete manifestation of the ideal, its shadow, its image; and its worth for man is measured by his recognition of the truth which it bodies forth.

History, then, is, in its essential nature, a group of theoretical studies and a collection of facts in which these studies find illustration. Not till this truth has been recognized, and the study of history put upon a basis commensurate with its dignity as the record of life, can it have the efficacy in education of which it is capable. Not till the teacher is trained by wrestling with the world-problems can the educational value of history be felt in our schools. Only the thinker can teach to think.

If such be the nature of history, it needs no arguments to prove that its study gives that development to the powers of man which general education demands. The practical question which meets us is what specific means shall the teacher of history take in the schoolroom to effect this development and thereby demonstrate the educational value of history.

Every day's lesson must be ordered with a view to the training of the powers in question. We begin with the acquisitive: the pupil is to be taught through the study of history how to use his powers intelligently to get knowledge in general, how to master materials presented to him and make them his personal possession. The most accessible materials which history offers are books and contemporary life. These present themselves to the student *en bloc.* To grasp their contents he must analzye them, discriminate the comparative importance of their elements, discover the causal connection of these elements, and synthesize them into a significant whole. Hence the study of history must be so ordered as to exercise upon books and contemporary life the powers of analysis, discriminative judgment, and synthesis. My method of teaching my pupils to use books is as follows:

For the history lesson a subject is assigned, certain books are indicated, the pupils are required to prepare as their lesson a topical analysis of the subject which shall show at a glance its essential points, the comparative importance of these points, their logical sequence, and their specific content. In the recitation hour one pupil is sent to the board to put upon it his analysis; the class is consulted at every step as to the judgment he shows: the large topics are keenly scrutinized and a vigorous effort is made to discover in them a common element that we may include two or more in one—"to boil down" our analysis is our constant effort, and he who sees the synthetic link which unites several particulars wins the triumph of the hour. This seeking similarity in the midst of diversity is the very essence of thought; we use the facts in the chapter as material for hard thinking; we are constantly busied with relations; this effort leads to sharp criticism of the logical order of any analysis offered, and the pupils are encouraged to scrutinize severely what the teacher may suggest. Written discussions of problems which present themselves, and written comparisons of epochs and lines of policy are demanded.

I cannot dwell too strongly upon the educational value of this constant exercise in analysis. It teaches pupils to tear the heart out of a book. It leads them to compare authorities, for on every subject they consult several books. They learn how to use libraries, for bibliographies are demanded for the most important subjects. The acquisition of the power to handle books is especially the work of the secondary school, that, upon entrance to college, students may be prepared to take advantage of the wider facilities of the college. Just as in Greek and Latin, French and German, the pupils are expected to learn in the fitting-schools how to use the language as an instrument, that in college it may be the means of general culture—of getting literature, and philosophy, and scientific knowledge, so in history, the pupils should learn in the fitting-school how to use its implements, books.

But after the content of a book has been seized and formulated in a tabular view, the pupils must learn how to hold it in memory. To help them do this we cultivate the logical memory, the imagination, the feelings. History is a logic which writes itself in facts, and when its necessary connections have once been seen the parrot memory may be dispensed with; hence pupils are constantly called upon to judge from given premises what results should be, and where their judgment coincides with the facts, there is little danger that facts will be forgotten. The imagination will present in one view the picturesque groupings, dramatic incidents, and connected progresses with which history abounds if once they have been impressed upon it. Feeling we seek even more earnestly to cultivate—the pupils must learn to grasp the conception of the Good as it appeared to each historic people and to feel the power it had for it; in the Homeric Age he must thrill with sympathy for the heroic, recognize the power of the grand manner which never loses its noble grace, its harmonious serenity, whatever it may portray; in Athens, the "fruitful, immortal, anointed, adored city of men without master or lord," he must love as the Athenians loved; he must exult in the mighty pride of Roman citizenship; he must will with the indomitable strength of the Teuton the assertion of the individual and his natural rights. Let the pupils feel history—its tremendous currents of passion, its strong outreachings after the objects of its desire, its aspirations, its struggle, its onward sweep, and they can no more forget it than they can forget themselves—for it is the self with all its passions, and powers, and fortunes, writ large.

Contemporary life is grasped in the same manner; the teacher in monthly lectures upon current events tries to analyze its complexity and to classify its great problems—constitutional, economic, social, etc.; the pupils, in the constant obligatory reading of newspapers and of designated articles in the best magazines, make kindred analyses which they present in weekly summaries and in monthly themes. History and the world-life of to-day are identified, and in their treatment the development of the same powers is sought.

The psychological powers find constant exercise in the study of history, and herein lies, perhaps, the special value of history as training for practical life. Other branches of education develop equally particular powers of thought in particular fields: mathematics and logic teach us to reason; science to collect facts and formulate laws; but history has for its subject man; his modes of feeling and action, his motives and character; hence its study demands an understanding of human nature; in other words, history is rooted to psychology. The student must grasp the different sides of man's nature, the feelings, the intellect, the will, and discriminate their functions, while comprehending their interdependence, if he will understand the personalities and the general movement of history.

Since the comprehension of man is the business of history, psychological analysis of historic races and personages is one of the chief concerns in the schoolroom. As peoples and men are met, there is required from the pupil a description of each from the points of view of physical endowment, temperament, mental and moral qualities, and organic results of the interworking of all the powers.

The logical and ethical powers of the pupil find still wider training if the teacher is himself vitally interested in the great questions of ethics, of political philosophy, of political science. If he himself has defined his notion of the nature of man, the necessary relations which this nature establishes among individuals, the ideal state which furthers the development of this nature; if he has, from the facts of history, drawn conclusions to support his opinions, he cannot teach history without teaching ethics and political philosophy and political science. Each state which he meets is inevitably compared with his ideal, and he discusses with his pupils, as grounds of its failure or success, its adaptation to man's nature. His teaching of history resolves itself into a search for law through the study of facts, and his pupils learn to see that just as mathematics does not consist in the concrete objects which it enumerates and measures, but in an ideal system of relations, just as science is not a mere collection of sense-facts, but the mentally conceived laws which express themselves in the facts, so the reality of history is not a mere series of events, but is the harmoniously developed totality of laws which govern human relations. History is the record of the world's search for the ideal harmony of relation of a rationalized whole, where each member persists in being through its universality, and of the world's effort to realize this ideal.

EDUCATIONAL VALUE OF HISTORY—The nature of education and the nature of history have been analyzed. It remains to state the ratio between them. Since general education is the training of the ethical, logical, psychological, and acquisitive powers of men, and since history, when properly taught, affords ample means for such training, the value of history in general education is 100:100. Special education, that which concerns itself with the acquirement of means to an end, or with the cultivation of special faculties, may be better served by other means.

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VI

THE EDUCATIONAL VALUE OF NATURAL SCIENCE

In this paper I have only undertaken to state the case; the limits of space will not permit the presentation of arguments to defend it. It will be understood that I have not attempted to state the value of science as it is now taught in the schools, but rather as it might be taught. In mentioning values I have omitted several considerations, such, for example, as the giving of useful information, and dwelt rather upon what seems to me to be the chief value of the study of science, viz., the training in certain habits which may be characterized as scientific.

Through the study of science the habit of investigation is acquired. As soon as one begins to explore by the methods of natural science—and a pupil in the primary school is not too young to begin—he feels a strong impulse to investigate further. He finds that his field of knowledge has been extremely small, and that he has been entertaining fantastic ideas concerning that which lies outside of his little circle. Very many of his ideas break down when he begins to investigate, and correct ideas must be established in their place. Children are generally eager to investigate, but a notion has long prevailed that if they become wise through their own explorations they are not so likely to be good. As a result of this it has happened that nature's feasts have been spread in vain, while we have with one accord made it our excuse that we think it safer to take our knowledge only at second hand. Someone has said, "In this world a large part of the business of the wise is to counteract the efforts of the good." It is the undoubted mission of science to enable the good to become the wise. Dr. Josiah Strong in the *New Era* says: "Generation after generation has repeated the mistakes of its predecessors at a dreadful cost of suffering and loss, which was as needless as it would be for ships, in clear weather, to split on rocks known to sailors for centuries." Professor Brinton says: "The good which we endeavor to attain is scientific truth, the one test of which is that it will bear untrammeled and unlimited investigation. Scientific truth is absolutely open to the world; it is as free as air, as visible as light, there is no such thing about it as an inner secret, a mysterious gnosis, shared by the favored few, the select illuminati, concealed from the vulgar horde or masked to them under ambiguous terms. Wherever you find mystery, concealment, occultism, you may be sure that the spirit of science does not dwell, and what is more, that it would be an unwelcomed intruder. Such pretensions belong to pseudo-science, to science falsely so called, shutting itself out of the light, because it is afraid of the light." The scientific mind investigates for the sole purpose of finding out the truth, and to the truth all preconceived ideas are subordinated. "It does not assume to know what ought to be, but finds out what is. On this line all the victories of modern science have been won."

Through the study of science the habit of observing relations is acquired. Persons may have the habit of observing to the minutest details things in which they are interested without practicing scientific observation. Scientific observation is always organized observation. It relates one thing to another, lighting up one fact by another, searching for the relation of cause and effect. The unscientific mind is insensible to the lessons which its observations and experiences would teach. I have discovered a large number of persons, old and young, who have not learned the lesson that when they look into a mirror obliquely they see objects not from their own immediate vicinity, but those situated upon the opposite side of a perpendicular to the surface of the mirror. I have also discovered that it is possible for persons to have much learning and still be oblivious to such an obvious fact. Professor Wesley Mills says, "I have known children who did not go to school till seven years of age, who prior to that period had learned to be good observers of what was going on around them, to lose all love for natural objects after being at school a couple of years; and I do also know to my sorrow that many of the young men that enter our colleges neither know how nor care to observe. They prefer not to look nature directly in the face, but try to see her through the medium of books, lectures, etc., and for this our school system is largely responsible." A college graduate and a candidate for the degree of Ph. D. was asked what evidence he had that air makes a fire burn, and he made a pitiable spectacle trying to recall what the authorities said upon the subject. A boy of twelve when asked the same question said, "We close the stove draughts to shut out the air when we wish to check the fire, and with a bellows we blow in more air when we wish to quicken the fire." The *Popular Science Monthly* in an editorial says: "If there is a fact that experience has overwhelmingly illustrated and established, it is that mere book-teaching of science is void and of none effect, nay that it is worse; that it has an actively injurious effect on the mind, which it deadens with meaningless jargon and befogs with ill-comprehended notions. How hollow, and often how fantastically absurd are the ideas children acquire of things of which they are told but which they have never seen or handled. Let us turn children out of the public schools ignorant, if need be, of many things that are taught to them now, but let this idea at least be rooted in their minds, that this world is made up of real things; and this further idea, that words are worse than useless unless they can be applied in the most definite manner to well understood objects of sense or of thought. What a blessing it would be if we could inspire the rising generation with a real horror of vague and meaningless language. It would mean nothing less than an intellectual revolution in the world." Scientific observation means seeing with one's own eyes and having, as a result, a train of thoughts start in one's own brain. Professor Tyndall said that "Faraday never could work from the experiments of others, however clearly described. He knew well that from every experiment issues a radiation, luminous in different degrees to different minds."

The following is presented as an example of scientific observation. We built a fire in the furnace which smoked much. After it had burned a few minutes we opened the door and found it covered with drops of a dark brown liquid as thick as molasses and having a characteristic odor and taste. A piece of burning paper or wood was dropped upon a white plate. Drops of the liquid appeared upon the plate afterward which resembled closely those found upon the furnace door. A paper tube was burned at one end and the smoke passed through the full length of the tube. The walls of the tube were found afterward to be saturated with a liquid like the one already mentioned. A similar liquid was found to drip from the joints of a long stove pipe in a building where wood was burned. A similar liquid appeared to saturate the rind of some ham which had been smoked. A scientific imagination is required to assist in correlating these observations, and a scientific conservatism must be used in drawing conclusions from them.

The study of science is valuable for the purpose of developing a constructive imagination. The scientific imagination is similar to that which enables a sculptor to see a statue in a block of marble, or which enables a painter to imagine to himself the picture he is to make upon the canvas, or that which enables the architect to form an idea of the building he is to construct. The scientific mind uses imagination not only for discovery but for appreciating facts. Teachers who suppose that a school laboratory is useful only for teaching the inductive method sometimes say that life is too short for pupils to spend much time discovering truths which have been already discovered. The fact is that very little discovery can be expected to take place in a school laboratory, but nevertheless the laboratory furnishes the only means by which the pupil can reach an understanding of the truths of his science. Through the microscope one sees only minute portions of an object at one time. The constructive imagination needed to form a conception of the whole is slowly developed by working with the microscope. By laboratory experiments we illustrate in a small way the great phenomena of nature—phenomena which are too large to be presented as a whole to our observation. A constructive imagination is needed to make the transition from the laboratory experiment to the natural phenomena. For the purpose of developing a constructive imagination illustrative experiments have a high value, and should be mingled with all quantitative work. Scientific observation and a scientific imagination were developed to a high degree in Laplace to enable him to discover the nebular hypothesis, and scientific observation, together with scientific imagination, is requisite to all who would appreciate how the nebular hypothesis explains the way in which worlds are made. Scientific observation and a scientific imagination enabled Darwin to do his work, and without scientific observation and scientific imagination we shall never be able to appreciate evolution.

A person who has acquired the habit of making use of scientific investigation, scientific observation, and scientific imagination will surely become well informed. Most of us are ignorant when we might be wise if we would give attention to the phenomena which are daily presented on every hand.

Science teaches conservatism in making and accepting conclusions. It begets a desire to examine the evidence for everything. It propagates a wholesome skepticism in a world which has a passion for being hoaxed. If the scientific mind were cultivated more widely, newspapers would not find falsifying so profitable, advertisements would not be so palpably untrue, and history would not need to deal with exaggerations in order to be readable. It is probable that all the available history that would be useful in the education of such a mind might be gathered into a very brief course. Science is largely a matter of common honesty. The first thing a person has to do when he wants to begin to be an honest man is to take an inventory of his stock of knowledge, or what he has considered knowledge, and throw much of it overboard, following the advice of that eminent sage who said: "It is better not to know so much than to know so many things that are not so." It cannot be doubted that the dishonesty of those people who disregard evidence does more harm than the dishonesty which we call lying and cheating. Certainly the first kind of dishonesty is far more prevalent than the second. What one gains by being dishonest with himself in respect to the stock of knowledge which he possesses, it would be difficult to say; yet there are no possessions to which one is apt to cling so tenaciously as to that mass of knowledge which he has adopted either without evidence or contrary to evidence. The scientific mind enthrones reason above authority. The world has suffered too much from authority. Ignorant and unreasonable authority has forced into submission an ignorant and unscientific world, and thus resisted the progress of truth. Even a child has an inalienable right to an explanation whenever any course he is required to pursue seems unreasonable to him. It is tyranny to require implicit obedience whenever an explanation is possible.

Painstaking habits are developed by the exercises of a well-conducted scientific laboratory. Teachers of science should require carefulness in performing experiments, carefulness in taking observations, and carefulness in drawing inferences. Careless, slipshod experimenting will always go hand-in-hand with careless observing and with hasty inferring. Most of the knowledge which really is worth while has to be dug out by dogged persistence. Perhaps our education cannot be too extensive, but it certainly is too little intensive. We are sure of nothing. We do not take time to connect and correlate. We do not digest and organize our knowledge. We are smatterers. We have a newspaper education. We deal in snap judgments. We hold opinions upon profound questions without any study whatever. Real science study cannot be looked upon as a diversion or a device for getting the attention of a weary class. If it is worthy the name of science, it must be quite as disciplinary as the study of classics or mathematics. It may be pleasurable, but the pleasure should be that which comes from a sense of increasing power.

The student of science will not be satisfied with vagueness. He will require that his knowledge shall be very definite, and he will, as a result of training in science, acquire the power of giving expression to his knowledge in very definite language. Such masters in science as Huxley, Spencer, and Tyndall are masters also in the art of saying what they mean. It is chiefly in this respect that science furnishes a training in the use of language.

"Common sense" is not a natural heritage, it must be acquired. To this end the study of science may be made a most potent agency.

The study of science should develop the capacity for earning a living, and at the same time give one reasonable ideas about what constitutes good living. It should act as a moral ballast. Its devotees are not subject to petty vices. It cannot be said of them that "they are more afraid of doing things conventionally wrong than of doing things morally wrong."

Science furnishes a basis for true religion. "True science and true religion," says Professor Huxley "are twin sisters, and the separation of either from the other is sure to prove the death of both. Science prospers exactly in proportion as it is religious; and religion flourishes in exact proportion to the scientific depth and firmness of its basis. The great deeds of philosophers have been less the fruits of their intellect than of the direction of that intellect by an eminently religious tone of mind. Truth has yielded herself rather to their patience, their love, their single-heartedness, and their self-denial, than to their logical acumen." Herbert Spencer says: "So far from science being irreligious, as many think, it is the neglect of science that is irreligious—it is the refusal to study the surrounding creation that is irreligious. Take a humble simile. Suppose a writer were daily saluted with praise couched in superlative language. Suppose the wisdom, the grandeur, the beauty of his works were the constant topics of the eulogies addressed to him. Suppose those who unceasingly uttered these eulogies on his works were contented with looking at the outside of them; and had never opened them, much less tried to understand them. What value should we put upon their praises? What should we think of their sincerity? Yet, comparing small things to great, such is the conduct of mankind in general, in reference to the universe and its Cause. Devotion to science is a tacit worship, a tacit recognition of worth in the thing studied; and, by implication, in their Cause. It is not mere lip homage, but a homage expressed in actions; not a mere professed respect, but a respect proved by the sacrifice of time, thought, and labor. Doubtless to the superstitions that pass under the name of religion, science is antagonistic, but not to the essential religion which these superstitions merely hide. Doubtless, too, in much of the science that is current there is a pervading spirit of irreligion; but not in that true science which has passed beyond the superficial into the profound."

The study of science is humanitarian. Professor Brinton says: "The aims of science are distinctly beneficent. Its spirit is that of charity and human kindness. Its mission is noble, inspiring, consolatory; lifting the mind above the gross contacts of life, preserving aims which are at once practical, humanitarian, and spiritually elevating." Coleridge said that "Sir Humphrey Davy would have established himself in the first rank of England's living poets, if the genius of our country had not decreed that he should rather be the first in the first rank of its philosophers and scientific benefactors." Goethe found nothing inconsistent in the spirit of science and the spirit of poetry. Some people give their idea of a scientist in the expression "a cold-blooded scientist." If they think that the study of science makes one incapable of love, they should read the lives of Agassiz and Faraday; and if they think that the scientist is incapable of enthusiasm, they should visit him in his laboratory or follow him through the fields.

Mr. Spencer says: "The current opinion that science and poetry are opposed is a delusion. On the contrary, science opens up realms of poetry where to the unscientific all is a blank. Is it not indeed an absurd, and almost a sacrilegious belief that the more a man studies nature the less he reveres it?

Think you that a drop of water, which to the vulgar eye is but a drop of water, loses anything in the eye of the physicist who knows that its elements are held together by a force which, if suddenly liberated, would produce a flash of lightning? Think you that what is carelessly looked upon by the uninitiated as a mere snow-flake does not suggest higher associations to one who has seen through a microscope the wondrously varied and elegant forms of snow-crystals? Think you that the rounded rock marked with parallel scratches calls up as much poetry in an ignorant mind as in the mind of a geologist, who knows that over this rock a glacier slid a million years ago? The truth is that those who have not entered upon scientific pursuits know not a tithe of the poetry by which they are surrounded. Whoever has not in youth collected plants and insects knows not half the halo of interest which lanes and hedgerows can assume. Whoever has not sought for fossils has little idea of the poetical associations that surround the places where imbedded treasures were found. Whoever at the sea-side has not had a microscope and aquarium has yet to learn what the highest pleasures of the sea-side are. Sad, indeed, is it to see how men occupy themselves with trivialities, and are indifferent to the grandest phenomena—care not to understand the architecture of the heavens, but are deeply interested in some contemptible controversy about the intrigues of Mary Queen of Scots!—are learnedly critical over a Greek ode, and pass by without a glance that grand epic written by the finger of God upon the strata of the earth."

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VII

THE EDUCATIONAL VALUE OF ENGLISH

I believe that the chief aim of education is not merely to produce men "useful and happy," but to surround each pupil with those conditions in which he can manifest to the highest degree his own peculiar inherited endowment; in other words, to enable him to acquire the power to do his utmost through knowledge, and to be his utmost through character. And since character is so largely determined by the habits and the ideals of the individual, it seems to me that no subject of instruction meets so well these high conditions as English.

The fact that English is the medium through which all our subjects of instruction win their educational value is the source not only of its great general importance, but also of its unique difficulties, when considered as a subject of instruction of equal importance with the traditional Latin, Greek, and mathematics. The prime test of a liberal education in any civilized country is mastery of the mother-tongue. Now, the burden of those liberalizing influences, associations, and ideals that the mother-tongue bears to English-speaking men is greater than comes to them from all other sources put together.

> "We must be free or die, who speak the tongue
> That Shakspere spake; the faith and morals hold
> Which Milton held."

In addition to its own special advantages, therefore, whatever educational values are attributed to other subjects may be claimed indirectly for English. The educational value of history, for example, is based largely upon the ground that it deals with the realities of life; but literature, and no literature more adequately than English literature, deals with the deeper spiritual realities of life, the ideals and achievements of man, not in the unsatisfying imperfection and incompleteness of actual time (especially of present time), but perfected and completed by the imagination, that supreme faculty "which creates the world, and to which the world belongs." Literature, too, while it may not give all the values derived from the processes of science, yet, being "the criticism of life by gifted men, alive and active with extraordinary power at an unusual number of points," as Matthew Arnold used to say, has a "fortifying and elevating and quickening and suggestive power, capable of wonderfully helping us to relate the results of modern science to our need for conduct, our need for beauty." Without poetry science is incomplete, for "poetry," Wordsworth finely and truly calls, "the breath and finer spirit of all knowledge—the impassioned expression which is in the countenance of all science"; and even Darwin, you remember, complaining of the lamentable loss of his taste for poetry and music, admits that "it is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature." And so with mathematics and foreign languages—adult specialists in these branches may rise above the need of expression in English; but all schoolboys think and dream in English; they cannot be said truly to know if they cannot give a clear account of what they know in idiomatic English. Now this interdependence suggests at once one of the most fruitful economies of elementary instruction.

If the comprehensive educational domain of the mother-tongue, extending from infancy to old age, thus gives it great general importance, the self-sufficient familiarity of everybody with the mother-tongue begets difficulties no less serious. No subject is begun under more ideal circumstances than English, but as life grows more complex, habits of speech and thought often become so bad that the teacher's work from the very beginning is, in some measure, reformatory. Except under rare circumstances teachers can control but a small portion of the pupil's time, and the special English teacher but little of that. In other subjects out of school the pupil loses only what he forgets; but in English, he not only forgets, but almost every influence out of school nowadays fortifies his indifference or arms his resistance to serious, systematic, painstaking English work—the more effectively in that the corrupting influences to which he is longest exposed are generally the most insidious. The difficulties that embarrass the English teacher in realizing the educational value of his subject are appreciated by all. In considering some of the special values, I shall therefore have to emphasize methods somewhat; and I shall follow a chronological rather than a psychological order, in the hope of bringing out more clearly the aims and economies in the early work that I believe must be realized before any radical improvement in the results of later work can be permanently secured.

It is the conspicuous privilege and responsibility of English that it is the first subject to contribute to the education of American youth. The child's first intellectual impulses are strengthened by the stories with which his guardians entertain him, and his sense of melody is developed and his ear trained by the songs and nursery rhymes with which he is lulled to sleep. The very processes of learning to speak are fraught with educational suggestions and parental responsibility. "You may put poison, if you please, in an earthen pitcher," said Socrates, "and the pitcher be washed after, and none the worse; but you can take nothing into the soul that does not indelibly infect it, whether for good or for evil." At a time when the child is a miracle of activity in observation, imitation, memory, it is of the utmost importance that he should have good models for observation and imitation.

The great educational value of English at the next step in the child's mental development is often not readily secured, because teachers so magnify the mechanical difficulties of learning to read and write that they leave out of account the imagination of the child and the economy to be derived from his sometimes wonderful accomplishments in oral expression. If considerations, not of number of syllables and difficulty of pronunciation, but considerations of the attractiveness and the adaptability of the matter, should determine the grading of his early reading, the pupil would more quickly come to his rightful possession of a cultivated ear, trained imagination, love for poetry, and taste for good reading. The greatest educational advantages in this direction are secured when the selections are of the highest literary merit, true to nature, and of broad human interest.

Along with an increased use of poetry as a means of culture, I conceive "learning by heart" to have momentous educational value, not only because it develops the memory, but because it supplies the young mind with concrete examples. Why poetry is the source of the best culture, how poetry ennobles, educates the very best in us, what the characteristics, in form and matter, of the best poetry are, critics can never agree in telling us; but time and the judgment of the race have put the stamp of approval upon much literature, the possession of which in the memory, as a never-failing touchstone by which to try other literature, is of inestimable value. For good taste in literature leads to good taste in the highest sense, which should not fall short of Carlyle's definition, "a general susceptibility to truth and nobleness, a sense to discern, and a heart to love and reverence all beauty, order, goodness, wheresoever or in whatsoever form and accompaniments they are to be seen." And never did the youth of any country need such taste as the youth of America to-day.

I cannot lay too much stress upon the great educational value of good reading aloud. Nothing, however, I suspect is doing more to destroy the simplicity of character and unconsciousness of manner with which, like an emotional and intellectual chameleon, the reader should become the author he reads, than most professional elocution. Sufficient vocal culture to enable the pupil simply and artlessly to reproduce his thought and emotion is of inestimable value, not only because good reading enables him to feel more keenly the beauty, worth, and power of what he reads, by enabling him to share it with others, but also because good reading seems likely to be our best, if not only, means of testing, if test we must, appreciation of literature.

After reading and memorizing, writing and composition—

after us, the deluge. Composition, sympathetically conducted, even at the stage when the mechanical difficulties of writing offer so great obstacles to unconscious expression, may touch the young pupil at more vital points, intellectual and moral, than all the rest of his work combined. Composition relates his scattered forces and restores their balance, puts him into possession of himself, and disciplines him in habits the most essential to the formation of character. At the time when his faculties of observation and imagination are photographically alert, the educational value of the natural sciences in supplying interest and material is surpassed only by the educational value of his reading in supplying the tools and models of expression. When out-of-door observation is not feasible, even the words on the printed page, first in the sentence then in the dictionary, may be made the object of as scientific discrimination as birds, insects, flowers, trees, stones, and weather. And this habit of observation, whether out of doors or in, is the surest road to correct spelling; for spelling, although originally phonetic, has now become almost exclusively a matter for accurate observation.

Before the pupil has acquired some fluency in the use of words, or before the increasing difficulties in his reading naturally demand the exercise of his slowly developing analytic faculty, grammar not only has no educational value, but like much of the premature work in arithmetic and geography, is of incalculable harm; when the need naturally arises for names for the functions and simple relations of words in sentences, we find the resort to the traditional grammatical terms and a little old-fashioned parsing to be of considerable educational value, not as an end, but as an aid to precision of thought and facility in interpretation of harder sentences than usual. The parsing, however, should be simple and confined solely to prose selections, and to sentences to be translated into French or Latin; for my experience has also convinced me that when the student of English is old enough really to need grammar (about nine or ten years), he is old enough to study a foreign language, whereby at once his conception of the power of expression is miraculously expanded; and he is old enough to profit by the precision of the inflexional forms and the objective reality of simple syntactical relations, such as are furnished by easy Latin, taught by stems.

If, however, after three or four years of stimulating work like this, the pupil in English, at the age of twelve or thirteen, is not well established in habits of seeing and recording things as they are, of making reasonable inferences, and of expressing himself simply and naturally, I do not see how his English teacher in the high school is to enrich his course in literature; for to a boy who cannot see and will not think, most literature is too mature and all good literature dull.

I was so firmly convinced that heedlessness and mal-observation were the root of all our difficulty in realizing the full educational value of English composition, that several years ago (before I attempted to throw the work so far described into the grammar grade, where it properly belongs), in sheer desperation, I borrowed a number of bird-skins and books on ornithology, and strove to interest my first-year class in birds, merely as objects for description. I hardly knew one bird from another myself. The first thing I knew the boys were off into the woods, and were bringing back—not birds, but very puzzling questions to me. The next year I went out into the woods, too. From year to year we have varied our books and our walks, but every week has come the genuine record of interesting personal experience, and at the end of the term the full record of the spring migration. My boys this very morning are out looking for red-wings and blue-birds, and they will have something to say whether they find them or not. I often meet them with note-book and opera-glass in hand; and last month I met two of the older boys with a box of food, on their way to the distant hills to feed a brown thrush which they had discovered with an injured wing after the fall migration, and which they had kept alive all winter. Two active ornithological clubs have been formed, and seniors in college have expressed their gratitude to me for arousing their interest in birds—"one of the best things they got out of school." But

English composition was my object, and I attained it; interest in ornithology was the by-product.

The well-equipped English teacher has a rare opportunity to remove the ground of the reproach cast by nearly all men of letters, most men of science, and all business men, that

> "The masters quite omitted
> The lore we care to know."

If the short daily composition exercises are of the nature I have indicated, the English teacher discovers from genuine, self-revealing themes of his pupil, the very lore he cares to know—his pet interests, books, and authors; and thus, he may gradually so relate the pupil's outside interests to his school work, that finally he may lead him into the pleasant fields of literature itself, by which his ambition may be raised, his tastes and ideals elevated, and his character ennobled.

The educational value of English at this point is vastly increased by co-operation with the library. Voluntary supplementary reading is always the most fruitful. Furthermore, the most useful practical power a student can be given is the power that directs him to the right place to find things, or the ability to use books. Nothing can impart that needful power so effectively as original investigation in connection with English school classics. I almost believe that we confer a more lasting benefit upon boys who are going to college by training them judiciously in this indispensable habit, than by giving them a strenuous course in historical word-study with Murray and Skeat, or historical grammar and syntax, or word-formation and phonetics (without which all English etymology is worthless), or Old English phonology and literature, or any of the other courses by means of which English may easily be intensified to equal educational value with the traditional subjects; and will be so intensified in some schools upon the adoption by the college of the resolutions of the New England Association of Colleges and Preparatory Schools.

The new requirements in English, with their much needed introduction of paragraph-writing and their intensifying of the literature work, already make it easier to realize some of the educational values of composition and literature that I have outlined above; but to realize the highest educational values of English under pressure of the examination spirit is impossible. The appreciation of truly great literature is not a subject for written examination at all; and not until the college is prepared actually to reject a candidate for failure in English composition on other papers than the English paper; not until all other teachers in school refuse to accept written work that falls below the high standard set by the English teacher, can examination draw forth composition of the highest possibilities.

In conclusion, let me repeat: without imagination, observation, and a reading habit, no boy can learn to write or to appreciate good writing; yet expression, the mastery of what Newman calls "the two-fold Logos, the thought and the word," is the flower of a liberal education; and the attainment of the mastery is an unmatched discipline in discrimination, judgment, taste, and those habits of neatness, accuracy, painstaking, thoroughness, patience, that are the foundation of character. During his unwearied striving for lucid expression, there begin to stir in the growing boy deeper emotions, keener sensibilities, warmer sympathies, the moral sentiment; in the literature which he reads for material and models, he suddenly finds the utterance of his own better self; and just as the generous striving for luminous expression begets the essential condition for luminous expression,—clearness of thought,—so association with the beauty, truth, power, and ideals of literature lifts the boy to a higher level of character and being. Fortunate for the youth of this country that its own noble literature contains the highest ideals of the race—fortunate for the country, perhaps, that its great poets were moralists first, then poets.

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VIII

THE EDUCATIONAL VALUE OF THE MODERN LANGUAGES

The value of a study for educational purposes depends, I take it, first, upon the effectiveness of that study as a means of mental discipline, *i. e.*, in training the faculties of the intellect, in giving a healthy stimulus to emotional life, and in developing strength of character, and, second, upon the usefulness, in the various relations of life, of the fund of knowledge obtainable through the study in question. The disciplinary value of a study is practically an invariable quantity, except so far as it is affected by the method of teaching employed; the immediate utility of a study, however, depends upon circumstances and conditions which vary considerably in the course of time and in different localities. Thus the utility of Latin was greatest when that language was the universal medium of communication between scholars; the utility of German is greater in the Middle and Western States of this country than in New England or in the South. Utilitarian arguments in favor of the study of modern languages have been urged so often and are so well understood that I need not accord to them more than a passing mention. The desirability of a speaking knowledge of foreign tongues in social intercourse, in traveling, and in certain lines of business is to the educator a comparatively unimportant consideration, since the results obtainable in our schools by purely conversational methods are admittedly unsatisfactory. Of far greater weight is the fact that a reading knowledge of German and French has come to be indispensable to scholars in almost all departments of learning; a fact which would alone suffice to secure for these languages a place in the curricula of the colleges, if not of the schools. But after all, the main object of the study of foreign languages in our educational institutions is not the acquisition of a knowledge or a skill which can be put to immediate use in other studies, or in the pursuit of either pleasure or business, but the opening up to the pupil of the treasures of thought and sentiment accumulated in the literatures of other nations; and the educator is therefore concerned chiefly with the effect which the study of languages and literatures has upon the development of the mental faculties.

Much of what I shall have to say concerning the disciplinary value of the modern languages will, of course, apply with more or less force to other studies as well, especially to Latin, Greek, and English; it will be necessary, therefore, to point out, in concluding this inquiry, the features which are peculiar to my subject. I have alluded above to the influence which the method of teaching may have upon the educational value of the languages; but the consideration of this subject would lead us too far and must therefore be dispensed with.

At the outset, the study of a language brings into requisition chiefly the powers of memory and observation. So far as the inevitable learning by rote of a large number of words and inflections is concerned, the benefit accruing therefrom to the general retentiveness of the memory may be questioned and is at best but slight; but a rational method of instruction will make the least possible use of mechanical means of acquiring knowledge. It will proceed in the main inductively by taking up an easy text either at the very start, or after but a few weeks' study of the outlines of accidence. It will teach the pupil to impress each new observation upon his mind by associating it with facts previously observed and bringing it into logical relation to them; and, in thus constantly using what psychologists call the *judicious* method of recording experiences, it will tend to the formation of a mental habit which is the surest means of improving the memory. At the same time the necessity of close attention to minute details of pronunciation and spelling, to inflectional changes in endings and root-vowels, and to the significance of word-order cannot fail to quicken perception and to train observation. Very probably the net result of this training is not an increase of the power of observation in general, but merely a heightening of its efficiency in dealing with linguistic phenomena; but in any case the gain is considerable, and will prove of advantage to the pupil not only in the further study of foreign languages, but also in that of his mother tongue. The value of the study of foreign languages in leading the pupil to a better understanding and a more thorough mastery of his vernacular is universally recognized. In that respect the translating of foreign texts is especially useful. It leads at every step to comparisons between foreign modes of expression and their equivalents in English, and thereby serves to throw new light upon the latter; it obliges the pupil to weigh his words with care and to discriminate between fine shades of meaning, in order to produce a translation which shall be exact, appropriate, and idiomatic; and it thus cultivates the power of expression and helps to develop a clear and forcible style.

The learning of a language involves, further, the constant exercise of the reasoning power. The classification of new facts observed requires the discernment, by analysis, of common characteristics and of their import as a part of a system; in translating, the logical relation of the different parts of a sentence, and of different sentences, to each other, must be ascertained and every word-form and construction must be accounted for; and in composition the application of difficult syntactical rules, like those governing the use of the subjunctive, necessitates intense logical thought and furnishes training of a correspondingly high order. Translating at sight, which has such a prominent place in language-teaching now, derives its value chiefly from the fact that it throws the pupil upon his own resources and compels him to make the most extensive and telling use of his reasoning power. Practice of this kind is, at the same time, intended to beget self-reliance in the matter of translating; but that is no easy task, for here the teacher has to do with the forming of character. It takes a strong effort of the will to fix the attention upon the task of laboriously recalling or reasoning out what can be found with little trouble in the dictionary, or by turning back to some similar passage; and it is safe to assume that but few pupils will use that method when they are not under the eye of the teacher. But in other respects translating offers to the teacher excellent opportunities for exercising a beneficial influence upon the mental habits of the pupil. As Mr. Lowell said, in addressing the Modern Language Association, five years ago: "Translating teaches us, as nothing else can, not only that there is a best way but that it is the only way"; and by refusing to accept any but the best translation, the teacher can do much toward forming in the pupils the habits of conscientiousness and accuracy. But from the point of view of ethical training, the study of the literatures is of far greater benefit than any amount of linguistic drill. From the simple fable or fairy-tale to the masterpiece of poetic genius, every good work of literature implants ethical ideals, incites to moral action, and gives a healthy impulse to the emotions. As President Schurman said in the pages of the *School Review* last year: "The pre-eminence of literature as educative material is due to the fact that, coming as poetry does from the intellectual and emotional depths of creative genius, it awakens, and nourishes, and calls into activity the corresponding potencies of those who are touched by its influence." And in addition to this there is the extension of the mental horizon, the overcoming of bigotry and prejudice, the incentive to justice and tolerance: in short, the general broadening and liberalizing of the mind which comes from an insight into the moral and intellectual life of other nations, and from the appreciation of their achievements. Two more points I will briefly mention: the stimulus which the study of literature gives at every step to the power of imagination; and the effect which it has upon the æsthetic sense in developing literary taste. Nor must we forget that literature contributes very materially to human happiness by opening new sources of enjoyment, of intellectual delight, which—to quote again Mr. Lowell—because it is refined, is refining too. To sum up: the modern languages and literatures, besides being of great practical utility, afford valuable training for all the faculties of the mind; in their influence upon the emotions and the imagination, they possess decided educational advantages over other studies, excepting, of course, the ancient languages, and perhaps history, and I think it is no exaggeration to say that any one of the languages usually taught in our schools, together with its literature, covers a wider range of human interests and appeals in more ways to the human mind than any other single study, without exception.

My next inquiry is: What can be said for the educational value of the modern languages as compared with that of Greek and Latin? Without stopping to consider matters of detail, I will mention at once the two points which seem to me to be of real importance: In the first place the content of the modern languages and literatures is a part of the civilization in which we ourselves live and with all the aspects of which we ought to be familiar. In the second place, the modern languages (particularly German, with its wealth of fairy-tales, legends, and folk songs) have the advantage of possessing works of literature which, while of high merit, are yet so simple in form and contents that they make admirable reading for youthful beginners; and this fact, together with the greater ease with which the languages themselves are learned, enables the beginner to arrive at the enjoyment of literature *as such* very much earlier than he could in Greek or Latin. Hence the modern languages have particular value in arousing and sustaining an interest in foreign languages generally. It follows then—if I may, before closing, go one step farther—that they, or one of them, should be taken up before the ancient languages. I should like to add this argument in favor of the introduction of a modern language into the grammar school, to those advanced by Mr. Tetlow in the EDUCATIONAL REVIEW[1] last year. The modern languages are frequently looked upon as a less serious study than Latin and Greek, because, beginning as they do at a time when the pupil has already had two or three years of Latin, they seem relatively easy; on the other hand

[1] VII: III.

the ancient languages are apt to discourage the pupil by their difficulty, and to make him doubt the possibility of his ever reading them with ease and pleasure; and that leads in but too many cases to their being dropped at the earliest opportunity. The study of a modern language in the grammar school would go far toward remedying these evils. It would at that stage be difficult enough to call for the best efforts of the pupil; it would prepare him for the study of Latin, thereby enabling him to make more rapid progress in that language; and it would encourage him to perseverance by showing him that he can learn to read foreign texts with a full appreciation and enjoyment of their literary merit.

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IX

THE UNIVERSITY CRISIS IN GERMANY

Lehrfreiheit has been so indissolubly associated with the past development of the German university, has so long been counted the inalienable right of each professor, that any abridgment in this respect must be considered not only a national but international calamity. And, strange as it may seem to those who know how great is the debt that the German nation owes to the German university, the time has come when the university must defend itself from the encroachments of the government.

The Emperor's address at Königsberg last autumn to the nobles of East Prussia urging them for the sake of "religion, morals, and order" to join him in the "struggle against the parties of revolution," has had more far-reaching consequences than were at the time suspected. The sensation caused by it in political circles was not greater than the surprise manifested among learned men that the bill which was introduced into the Reichstag at the opening of the session in December should contain an article abridging the right of free discussion in matters scientific and philosophical.

The *Kreuzzeitung* began the agitation in its issue of November 25, by asking what is meant by "religion." "As matters stand at present," it was said, "we have a double-entry system of spiritual bookkeeping. For the masses, so far as they attend the elementary schools, and, theoretically, for pupils of secondary schools as well, we have instruction in religion on the lines of positive Christianity in the name and by the authority of the state. In the universities, on the contrary, where the young men are being educated who will in time succeed to the leadership in Church and state . . . something entirely different is often put forward in the name of science; doctrines are preached which stand in sharpest contradiction with those given to the people. . . This is excused on the ground that religion is for the people, and for them it is good enough as it is; science, however, occupies another field and seeks a different patronage—the two do not come in contact." Another article in the same paper says: "Not only are the Jews our misfortune; the liberal professors, who awkwardly and frivolously concern themselves with affairs which are none of their business and which they do not understand at all—these professors are even as great a misfortune. . . If the state permits this system to continue, if in the name of the freedom of science, men are to be allowed to teach what they will—yes, even enter into political discussions, as we have lately seen—then it is not to be wondered at that antagonism to all authority should steadily increase. For the revolution from below can be successfully met only when there is no trifling with it in the higher strata of society."

Paragraph 130 of the bill now under discussion in the Reichstag provides a penalty of imprisonment for not longer than two years, or a fine of not more than six hundred marks, in case of derogatory expressions publicly directed against religion, monarchy, marriage, family, or property.[1] The aim of the government, of course, is to secure more effective means of combating the rising social democracy, and in order to do that the law must be all-embracing. The Social Democrats in the Reichstag quickly saw the advantage of their position. Deputy Auer, in opening the debate for the opposition on January 8, naïvely inquired if the Jewish religion is to be included under religion—if not, why not? Is the section to be enforced against those "scientific" writers who recognize neither the immortality of the soul nor even the possibility of a future life? "I have seen lately," he adds, "in a high-class journal edited by a university professor a reference to the 'myth of the virginal birth.' No heed was given to it, but let a Socialist say it!"

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[1] ". . . . welcher in einer der öffentlichen Frieden gefährdenden Weise die Religion, die Monarchie, die Ehe, die Familie, oder das Eigenthum durch beschimpfende Aeusserungen öffentlich angreift."

Why should one man be punished for doing that which in another is not only tolerated but encouraged under the present system?

The answer was given the following day by Freiherr von Stumm, one of the stanchest supporters of the government. The Socialist party is composed of revolutionists; it fosters opposition to all institutions of government; it breeds everywhere discord and discontent; it stands unalterably opposed to all authority. "No other means is available but the 'iron hand'—it must be force against force." Yet this is not enough; the movement is also a spiritual one. It must be met on its own ground, and above all else the sources of error must be detected and purified. Employers of labor must be made to realize their responsibility to the state and forced to desist from oppression of the working-men. "Though I have said some hard things against the employer of labor, yet I am willing to acknowledge a shadow of excuse for him, viz., the coquetting of certain learned circles with social democracy, or—what is the same thing—with revolution, as was the case shortly before the French Revolution. Gentlemen, right here in Berlin has been developed a complete university socialism. Every professor, especially in political economy, who does not fall in with socialistic views, is boycotted as was the case in France; he is persecuted, pronounced unscientific, and is never advanced. Under such influences our future officials are being trained! Things have come to such a pass that the attempt is being made to bring the Social Democratic students into closer association with the others. . . A certain part of the evangelical church is directly aiding the democrats. . . The civil service is becoming tainted. It is high time that something be done. This bill is the first step toward a cure. Its great advantage is that it reaches not only the lawbreakers but those who directly or indirectly incite to crime. There can be no exceptions; there can be no law of exceptions."

Significant as are these words of the leader of the *Reichspartei*, the next speaker gave even less room for doubt and showed plainly where the powerful Catholic 'Center' stands—

a party which numbers one-fourth of the house. Deputy Gröber, from Württemberg, maintained that the greatest defect of the measure is that it is not explicit enough, not sufficiently comprehensive. Its special advantage is that it is framed to meet error in all social grades: and there is no doubt that it will be rigidly enforced, should it become a law. The theory is gaining ground among university men, jurists, and private scholars, that "crime is a product of the times," that it may not be reckoned solely aganist the individual. Thus personal responsibility is being undermined and lawbreaking encouraged. Such doctrine is bad enough under any circumstances, but how much worse when preached to immature university students! But if "might makes right," as these professors teach, how guilty the state must be when it permits, patronizes, and pays for such teaching! The speaker then cited passages from a work by Professor Ziegler of Strassburg, *Sittliches Sein und sittliches Werden* (1890), to demonstrate to the Imperial Chancellor that the right of revolution is being taught in the university which for years has been under his protection. The excuse of right motives cannot be urged. "For such cases as these the law would be useful." Herr Gröber then quotes from Samter's *Das Eigenthum* (Jena, 1879)—a book dedicated to Professor Wagner of Berlin—to show that property is considered by these *Gelehrten* a matter of common consent, not of individual right. "This protection of the German professor is in my opinion exceedingly imprudent and wrong. Imprudent—for how can we prevent the common people from saying and doing precisely what these professors are saying in their lecture rooms, repeating in popular form, and writing in their books? [Great applause]. . . It is pure nonsense to permit in the upper grades what is forbidden in the lower. And more—it is wrong. The greater danger comes not from below but from above." After these remarks, which were enthusiastically cheered, the speaker reviewed Professor Haeckel's philosophical views and his attitude toward the Catholic Church. He quotes passages from Professor A. Döring's *Güterlehre* (Berlin, 1888), in which a belief in a future life is called an illusion pure and simple. Professor Paulsen then comes up for castigation because of parts of his *System der Ethik*, in which the Gospels are characterized as "historical poems," and faith in immortality in the form of a personal existence is called a dream. Professors Förster and Giercke are likewise called to judgment and quickly disposed of. Such doctrines, the speaker maintained, are not harmless, as some say, but exceedingly pernicious to law and order. "They are the arsenal from which the socialists draw their munition. . . We [Catholics] are willing to follow the Emperor's lead in the fight for religion, but what use to fight when the state pays men to teach that there is no personal God, no future life? . . . But in order to do the best we can, our hands must first be freed from their bonds, our Church orders must be made free . . . for spiritual battles cannot be fought in fetters." This is the price of Catholic support.

The astonishment produced by these speeches among progressive university men can well be imagined. They have an inquisitional sound about them that harmonizes ill with nineteenth century ideals. But the spirit that founded Halle does not propose to be snuffed out by modern politicians—at least not without a struggle. In the *Zukunft* for Februrary 2, Professor Haeckel has given his opinion of the "Berlin Council" and the speech of "Bishop" Gröber. He points out to the "Bishop" that a new religion—Monism—is on the threshold, and it demands as good a right to be protected as any other. He names two of the most rabid "revolutionists" of the age—Darwin and Helmholtz—whom the civilized world has been pleased to honor, and enumerates some of the discoveries in modern science which have made nations possible. Furthermore Professor Haeckel calls the attention of the "Council" to certain other very dangerous works that are abroad in the land—those of Copernicus and Kepler, Spinoza and Bruno, Shakspere and Schiller, Kant and Goethe—to say nothing of Alexander von Humboldt and the "Philosopher of Sansouci," the latter of whom laid down that fatal decree, "In my state each man may be happy in his own way." It rouses

Haeckel's ire when Herr von Köller, minister of the Interior, comes forward in warm support of Herr Gröber and declares that "we all believe in one God and demand that these opposing infamies cease." "More than that the Pope himself could not ask," adds Haeckel. "Have these men absolutely no idea of all that has been going on about them and of what has been penetrating the spiritual life of the people for these thirty years? Have they, indeed, no idea whatsoever of the marvelous progress made in science?—in cosmology and geology? in biology and anthropology? in critical theology and philosophy? Do these pious representatives of the Middle Ages really believe that with their rusty shields and punctured armor they can withstand the powerful weapons of the modern spirit? . . . Although I consider the utopian aims of social democracy impracticable and their ideal future state a veritable prison-house, yet that does not prevent my recognizing the kernel of truth in this great social movement. That this can be overcome by the decisions of the 'Berlin Council,' by civil or military power, no one can believe save he who knows neither political history nor the history of civilization."

The same journal, under date of February 9, prints a long article by Professor Paulsen, of Berlin, on "The universities and revolution" in which he replies to the charges made in the Reichstag. He says that it is of small consequence to him what construction Herr Gröber and his associates put upon the disconnected and unrelated passages taken from his books. The matter is more serious than that. The fact is that all the great revolutions of Germany have gone out from the universities, from Wittenberg down. And had Europe remained subject to the Pope there would have been no Cromwell in England, no Napoleon in France, no Bismarck in Germany—even the Hohenzollern would have remained Margrave of Brandenburg. This unfortunate era, of which Herr Gröber speaks, began anew at Halle, and though opposed again and again by government and Church orders, the university professor has continued to speak his mind. Herr Gröber doubts that the measure is strong enough to reach the sources of danger in the higher ranks, or that it is so intended. "But," says Paulsen, "if it becomes a law, all the world will know what construction the majority in the Reichstag will put upon it—it is not only intended to put down social democratic agitation, but much more to do away with certain tendencies of thought which in the opinion of the majority are undermining national institutions, and to this extent, therefore, preparing the way for the dreaded revolution." The government may protest that it has no such thought, but, "I do not believe that this paragraph could or would be carried out according to the intentions of these well wishers; the natural course of events tends in the other direction." History tells all too plainly how easy it is to find transgression when once the desire is strong. And judges are only men, and government officials at that. What had more to do with sowing the seeds of revolution for 1848 than the vexatious and severe sentences passed upon members of the *Burschenschaft?* Yes, Herr Gröber is right, "every sharp criticism can be considered a derogatory expression." The error is in thinking that by any external *force* whatsoever the social movement can be overthrown. "I do not deny that free agitation has its dangers, but the dangers involved in the attempt to crush it out are not less to be dreaded; if the former are acute the later are chronic, and in the long run chronic cases are the worse." It is the great advantage of Protestant nations that their revolutions come gradually; in Catholic lands the long pent-up fury works dreadful destruction when once it is let loose. "And now are we to depart from our traditions? Are we to recognize the theory of the Jesuits, that free criticism is the root of all evil, as *der Weisheit letzten Schluss?* Is the Catholic Center to make laws for imperial Germany? Have we come to that stage? It must not, but to all appearances it will come. It will not be the last chapter in the history of the German people, but it would seem to be the next one. . . The ruling instinct of the times is the determination to command. . . It is always ready to crush down whatever opposes it . . . and in the Catholic Center it finds able advocates. . . It were truly the crushing irony of history if the Center should secure as its reward, for supporting this measure, the return of the Jesuits and the surrender of the German professors. . . I cannot close this article without letting a ray of light fall on the gloomy aspect of the times. It appears to me as if already a new day were beginning to glimmer on the horizon. The 'Will to Rule' is still the controlling motive within the Reichstag and without. Among the educated youth, however, a new idealism is beginning to stir—new ideals of freedom and right, of the well-being and glory of the Germany people. The more recklessly the 'Will to Rule' is enforced, the more rapidly will these ideals spread and grow in strength."

Professor Paulsen's judgment of the general direction in which the students' sympathies are tending was singularly confirmed in Berlin last week. The professors of political economy, against whom it had been falsely charged that the university authorities had instituted proceedings because of their too great liberality, were given an immense ovation by the student body. The Rector of the university, Professor Pfleiderer, told the students that social questions are dangerous playthings in the hands of those who know little of the world, that the greatest danger of the times is not the persecution of the scholar, but the unscientific treatment of scientific problems. "The freedom of research and the freedom of instruction must remain inviolate." Addresses were made by Professors Wagner, Schmoller, Treitschke, and others all emphasizing the seriousness of the situation and the dangers inherent in the government measure. Public protests are being made from many sources—by university professors, secondary school teachers, and by the friends of progressive education the country over.

The result—that is something that none seems to know assuredly. A committee of the Reichstag is considering the measure with a view to satisfying the greater number. Some say that it will be dropped, or, if it passes the House, it will be so amended as to maintain *Lehrfreiheit* in all educational work. This solution could only be temporary, because such a law would be a law of exceptions. Equity would not long suffer one class to undergo punishment for offenses of which others were equally guilty but left unprosecuted. Such a move would be the surest step toward revolution. The government cannot abandon the bill entirely without giving the social democrats greater moral strength than they have hitherto possessed. As Deputy von Benningsen, leader of the National Liberals, has said, "something must be done, or we can proceed no further." Finally, if the measure becomes a law in anything like its present form—well, it will be the beginning of the next chapter in German history, but, as Professor Paulsen writes, "it will not be the end."

JAMES E. RUSSELL

LEIPSIC, GERMANY

X

REVIEWS

German universities, their character and historical development—By Friedrich Paulsen, Professor of Philosophy and Pedagogy in the University of Berlin. Authorized Translation by Edward Delavan Perry, Professor in Columbia College, with an Introduction by Nicholas Murray Butler. New York: Macmillan & Co., 1895, 254 p. $2.00.

This account of the German universities by the distinguished Professor Paulsen of the University of Berlin, with an introductory chapter discussing the bearing of this German experience upon the problems of higher education in the United States, is a valuable and timely work. In the chaos of mind existing in America as to what in reality constitutes a university (see Professor Butler's introductory chapter) a clear presentation of the character of the German university will help us toward a definition of this term, university, which is to us as yet so indefinite in meaning. For, because of our optimistic habit of discounting the future, we sometimes name an institution of learning, which is as yet little more than a high school, the University of North America; a title which, it is hoped, will be entirely appropriate within a decade at the farthest. One can readily see, however, that when graduates of these high school universities enter foreign universities representing themselves to be graduates of an American university, the reputation of Harvard and Johns Hopkins and the few genuine American universities suffers unjustly thereby. All who are jealous of the reputation of American scholarship, therefore, will welcome a volume which will give clearer notions of the nature and functions of a university.

This is not equivalent to saying that the German university is the only genuine type. Indeed, Professor Butler in the introductory chapter emphasizes the difference between American and German conditions, and observes that an educational organization slavishly following the German model could not thrive in America. He supports this view by a presentation of the difference between the method and spirit of the American college and the German Gymnasium, which prepares for the university of each country respectively. And yet he recognizes fully the value of the lessons to be drawn from a study of the universities of Germany, and he urges that the American university is "essentially the same," its organization having been largely effected by men trained in Germany.

He sounds a note of warning against the tendency in America to give undue prominence to the technical schools of the university (law, medicine, etc.), particularly since these departments admit immature students who have had no adequate previous training. Their work cannot, therefore, be regarded as legitimate university work, and the standard of the American university is thereby lowered. Indeed, he holds that "with the exception of the medical school at the Johns Hopkins University and the law school at Harvard, there are no professional schools in America of university rank." To bring up the standard of American universities, these departments must admit no students who have not had a broad preparatory training, and the philosophical faculty, which is "at once the essence of a university and its true glory," must dominate the university administration.

Professor Paulsen begins his account with a comparison of the three types of university found in England, France, and Germany. Of these the English type resembles the mediæval university most, the French type the least. Neither in England nor in France is it considered the function of the university to extend the boundaries of knowledge; whereas in Germany the work of the university professor is not so much to expound and hand down a generally accepted body of doctrine, the accumulated wisdom of the past, as it is to present the results of his own researches. Consequently the leading scholars in England and in France "are outside the pale of the university, in Germany they are within it." The German university professor is, it is true, a teacher as well as an investigator. But the measure of his success is largely the extent of his intellectual output. Upon this a young man's promotion mainly depends. While ability as a lecturer, success in attracting students to his courses, is not entirely ignored, yet after all the way to distinguished success is through original, scholarly work—work that extends the boundaries of knowledge even a little into what Carlyle would call the circumambient realm of Nothingness and Night.

We may from this volume understand the reason for the extraordinary intellectual activity of the German university world; an activity which, directed as it is toward the discovery of new truth, has given Germany that pre-eminence in the world of learning which called forth Professor Bryce's characterization of her as "the nation which does the largest part of the intellectual work of the world," and which has wrung even from a Frenchman, Ferdinand Lot, the opinion that "the scientific leadership of Germany in all fields without exception is nowadays acknowledged by all nations. It is a settled fact that Germany alone produces more than all the world put together; her supremacy in science forms the pendent to England's supremacy in commerce and on the sea; and perhaps it is even greater."

M. Lot attributes this supremacy to the organization of the German universities, to their uniform corporate constitution, to the freedom of teacher and learner, and most of all to the direction of their instruction toward research.

A study of the university organization which produces such results would seem to be the duty of the hour.

In this connection it may be well to refer to Professor Paulsen's statement of the object of the young student's stay at a German university. As it is not the function of the professor to hand down a body of inherited truth, so it is not desired that the student should merely absorb truth presented to him by lecture or text-book, but that he himself should learn to work and think in a scientific way. Hence the insistence upon a proved capacity for independent research in the dissertation for the degree of Ph. D. An examination, however brilliant, on the subject matter of instruction, on the course of lectures attended, even though this course may have presented much new truth, does not in itself satisfy the requirement. The theory is that the student must not only have learned the method whereby the boundaries of knowledge are extended, but must also have proven his own capacity to carry on the investigation in some province, however small.

As to the student's mode of life at the university, he is free to do as he pleases. After he once matriculates "no official inquires about him for several years; he is left entirely to his own devices." He takes whatever course of study he pleases, he attends lectures or not as he pleases, he lives where he pleases, and at whatever university he pleases. In fact the reader of this book now begins to suspect that there may be a grain of truth in the old story of the new arrival, who, inquiring for the university building, was answered, "I really do not know; I am a student here myself!"

This freedom of life and the *Lehrfreiheit* so highly prized by the German university student are vigorously defended by Professor Paulsen. "Here is the place to exert thine own will; thou art henceforth a man, and must answer for thyself!"

There is given much information in regard to the life of the students, their study, their societies, their recreation, dueling, etc. The total expenses for the university year range from $250 to $500, the average being between $300 and $375.

There is a chapter on the historical development of the German universities, in which is discussed the influence of Humanism and of the Reformation. We are told that the University of Wittenberg was, about 1550–1560, the most largely frequented German university, to which young men flocked "from all parts of Europe." How natural it was, then, that Shakspere should make Hamlet return to his mother's o'er hasty marriage from school at Wittenberg!

Chapter III discusses the relation of the university to the state, to the Church, and to the community. The methods of appointment to the professorships and the degree of the state control exercised are explained. Practically the university world has the power of excluding absolutely an unworthy candidate for the career of a university professor. If the candidate is so lacking in the instincts of a gentleman that he is manifestly unfit to enter upon this honored career he fails to pass the examination for the position of *Privat-dozent*, whatever his mental attainments. This examination is given by the university professors. Vacancies in the professorships are filled by the Minister of Education or by the sovereign himself from a list of three nominations submitted by the faculty of the university concerned.

In the actual carrying on of instruction in the university there prevails, we are told, practically an absolute freedom. The professor is appointed to lecture on a subject. The themes for his lectures, the number of hours to be devoted to them, the subject-matter to be treated, the methods to be followed—all this is left entirely to his own judgment.

In the discussion of the relation of the universities to the community some exceedingly interesting facts are given. We are told that so high is the estimate put in Germany upon academic training that all young men of birth and wealth betake themselves to the universities or at least go through the *Gelehrtenschule*, that the entire German nobility and gentry feel bound to follow this course. Here they come into competition with the sons of peasants and of mechanics, for the nobility is no longer a privileged class with a hereditary claim upon all desirable public offices. This chapter deprecates the conditions of late observed which narrow the ranks from which the universities are recruited, and closes with an appeal for preserving the democratic character of the German university that future Winkelmanns and Heynes and Kants and Fichtes, born in poverty, may not be lost to the world.

The closing chapter discusses the unity of the university, touching upon the advantage of keeping the technical schools in touch with each other and with the department of philosophy—a connection which explains "the inclination of all German science toward philosophy," the tendency to "seek general and ultimate truths." The last subject touched upon is the unity of all German-speaking universities among themselves and the constant change of students and professors. A graduate of Oxford would not be likely to be called to a professorship at Cambridge, but each German university seeks to draw to itself the best men from the whole body of German scholars in order thus to increase its own attractiveness. Appendices give the dates of the foundation of the German universities, statistics of attendance, and a bibliography.

The German university professor, particularly the German university professor of philosophy, is popularly considered to have a peculiarly perplexing literary style. And yet Kuno Fischer, professor of philosophy in the University of Heidelberg, in his ponderous volumes on the history of philosophy has a literary style which is remarkably beautiful and simple. And this volume, as well as other volumes by the professor of philosophy in the University of Berlin, are not only full of matter but also clear and attractive in style.

Of the merit of the translation it is sufficient to say that it is so well done that the reader would never suspect it of being a translation at all. There is need of no further praise. Perhaps, in consideration of the labor involved in making such a translation, an expression of gratitude to the translator may not be out of place.

In view of the present interest in the problems of higher education in America this discussion of German experience by so distinguished a scholar is a valuable and opportune contribution.

RICHARD JONES

SWARTHMORE COLLEGE

Harvard College, by an Oxonian—By GEORGE BIRKBECK HILL, D. C. L., Honorary Fellow of Pembroke College, Oxford. New York: Macmillan & Co., 1895, 337 p. $2.25.

This book is an unique study of an educational type, with a style and a point of view peculiarly its own. Mr. Matthew Arnold's official papers on the higher educational institutions of France and Germany and Professor James Morgan Hart's account of his impressions and experiences at a German university, are very different in purpose and in scope. The same is true, though in lesser degree, of Mr. Charles Astor Bristed's description of his five years at an English university.

Englishmen are notoriously indifferent to the study of education and educational institutions, particularly beyond their own borders; and not even the exertions and example of men like the late Mr. Quick, Dr. Fitch, and Mr. Foster Watson have sufficed to turn the scale. It has long been fashionable at Oxford to sneer at the German universities and to patronize those of America. More lately, and owing in large part to the influence of men of the type of Jowett, Green, and Caird, this cynical indifference is wearing away among the better class of English university men, and it is coming to be recognized that the lagging behind of Oxford and Cambridge in all that makes a university powerful and efficient is a cause for shame rather than a source of pride. The organized bands of itinerant knowledge-venders, known as University Extension lecturers, are an attempt to respond in some degree to the demands that modern civilization makes of universities.

Mr. Birkbeck Hill writes as a modern Oxonian. He has really studied Harvard intelligently and has caught something of its spirit. His chapters are at once historical, critical, expository, and chatty. They are eminently readable, and will be read. The unconscious motive of the book, which gives it a touch of humor at times (and that when the author least suspects it), is to commend Harvard to the respectful attention of Englishmen in general, Oxonians in particular. But the English critic who has read his Lowell and his Holmes to no more purpose than to class them benignantly as writers of humorous verse entitled to rank "somewhere between Calverly and Austin Dobson" (as if there were any space there!) is not unlikely to think that Mr. Birkbeck Hill has allowed his judgment to be unduly influenced by American hospitality, and that Harvard is really a sort of inefficient Eton.

But whatever we may think of Mr. Birkbeck Hill's chance of success with his chosen audience, the motive is praiseworthy and the execution of his plan admirable. The age and traditions of Harvard, the vicissitudes of its past, the strength and glory of its present, have all impressed him forcibly. He has not rested content with external appearances, but has penetrated the recesses of the lecture-rooms and of the "spreads" on class-day. He has come to know the student life in a way that is really surprising. There are also passages in the book, not a few of them, which indicate that, Oxonian though he be, Mr. Birkbeck Hill appreciates the objects for which universities exist, and feels the force of the differences between Harvard and Oxford.

"What a hold should we get on men of the noblest minds in the United States and through them on their countrymen, did we open wide our universities!" exclaims Mr. Birkbeck Hill. "What's Germany to them or they to Germany?" he adds. To answer this question and to comment properly on the exclamation, would require more space than is at my disposal. It may be said, however, that at the present time the English universities make little or no intellectual appeal to the American student. They charm his senses and enthrall his imagination. He loves to recall their great names and their past services to sound learning. He loiters in their grassy quadrangles and among their architectural monuments. But for scientific method, for scholarship at once minute and broad, for unrestricted opportunity and effective training in exposition and investigation, he must pass over the Channel to the bare and unromantic halls of Berlin and Leipsic, of Göttingen and Halle. The hold of the German universities on American scholarship is an intellectual one merely. A stronger and more effective intellectual force could loosen it at any time.

Mr. Birkbeck Hill's study of Harvard and its life will appeal strongly to American readers. It is sympathetic and fair, without flattering. Many a college man will enjoy every page of it.

N. M. B.

The education of the Greek people, and its influence on civilization. By THOMAS DAVIDSON. (In the *International Education Series*) New York: D. Appleton & Co., 1894, 229 p. $1.50.

The wide range of Mr. Davidson's information, and his enthusiastic advocacy of what he believes to be true educational ideals and sound educational methods, are well enough known to lead one to open this book with unusual interest. Four years ago, in his invaluable *Aristotle and the ancient educational ideals*, Mr. Davidson outlined and interpreted the educational theories and practices that Hellenism wrought out. In this volume he has set before himself the equally instructive and important task of describing the place of Greek ideals in universal history, and of estimating their value in that relation. The present book contains much that is repetition and reiteration, doubtless unconscious, of its predecessor; but it is none the less valuable on that account.

The opening chapter, entitled "Nature and education," furnishes, in succinct form, the philosophical standpoint that the book illustrates. The familiar distinction is drawn between the two significations of "nature," which Mr. Davidson calls *original* and *ideal*, and education is defined as the process by which a human being transcends his original, and attains to his ideal, nature. So anxious is the author to maintain this view that at the outset (p. 3) he commits himself to an astounding *non sequitur*; for there is nothing whatever in the phrase "develop the child's spontaneity," that necessarily conflicts with Mr. Davidson's view. Neither is there anything in it that necessarily allies it to the crude Rousseauism which he is inveighing against. This, of course, would be a small enough thing in itself, were it not that it indicates Mr. Davidson's rather rough-and-ready way of dealing with what he does not like. Similarly, the history of philosophy being what it is, "stupid" is hardly the most fitting epithet to apply to the controversy over dualism and monism (p. 8).

Having established his educational ideal, Mr. Davidson proceeds to indicate the method by which that ideal may be attained. This involves a sketch of a curriculum and an outline of educational values. Taken as a whole I can only describe the treatment of these topics as fantastic, although the discussion contains much that is valuable and suggestive. To insist that a university must have a fixed curriculum is to write in ignorance of what a university is or what it is for. To cut up pyschology into mere parts of a dozen sciences is unnecessary trifling.

With his ideal and his method in mind Mr. Davidson proceeds to estimate the civilization of the Greeks. The political basis of this civilization is carefully and ingeniously traced. Departure from this basis, with the rise and spread of individualism under the stimulus of the philosophical movement best typified by the Sophists, is made the turning-point of Greek history. The attempts to resist individualism in a philosophic state, by Plato, and in a scientific state, by Aristotle, are studied and interpreted. Finally, Greece comes in contact with the Orient and with Rome and Christianity. Both are momentous occurrences, and the effect of each is marked on our civilization to this day. As a result of his survey, Mr. Davidson concludes: "As Christianity without Hellenism sinks into barbarism, so Hellenism without Christianity leads to destruction. Only when united, as humanity and divinity, do they lead to life and freedom" (p. 229). In these last chapters Mr. Davidson shows great philosophic insight, and is very happy in many of his interpretations of the great movement of thought that surrounded the early formulation of Christian doctrine.

Space does not permit me to enumerate the valuable elements of this history. It ought to be read, and read again. There is much in it to dissent from and not a little that is very extreme; yet it is a stimulating book.

Mr. Davidson's style suffers from his fondness for paradox and his violent characterizations. Hegelianism, for example, is set down as "only a modernized form of Neoplatonic Gnosticism," and Schopenhauerism as "little more than Orientalized Stoicism." Their theories of knowledge, alone, ought to have saved them from that.

No notice of the book would be complete that did not mention the illuminating preface by Dr. Harris.

N. M. B.

Waymarks for teachers, showing aims, principles, and plans of everyday teaching, with illustrative lessons—By SARAH ARNOLD, Supervisor of Primary Schools, Minneapolis, Minn. Boston: Silver, Burdett & Co., 1894, 276 p. $1.25.

The above is the title of a book that should be an inspiring presence in the library of every practical teacher. That which adds a greater value to the work is the fact that every suggestion it has to offer has been tested in the schoolroom experiences of the author; the book is therefore eminently fitted to be a practical guide in the schoolroom. True to its practical character, the work plunges at once into the questions of material and method. Each one of the eight chapters (nature-study, language lessons, reading, spelling, geography, number, seat-work, and talks on school subjects) discusses the plan and purpose of the study in question, supplementing this by sample lessons on various topics, and by a large number of children's original language productions. There is no attempt made in this work, as is too frequently the case in books designed for guides in special method, to furnish the reader with a hasty and inadequate summary of the underlying principles. These are evidently presupposed in the reader's previous studies and preparation; but yet one finds here pedagogical principles concretely exemplified. The chapters are full of numberless excellent suggestions, hints, and illustrations that constantly betray the presence of guiding laws. On the whole, the book bears the stamp of careful preparation and thought; from a literary point of view perspicuity and simplicity seem to have been preserved without any sacrifice of professional tone. The book is well arranged for ready reference. Perhaps the most important chapter in the book, from a modern point of view, is that upon nature-study; this field is evidently one to which the author has devoted special thought and experiment. Certainly, in her opening chapter, she places before her readers very high ideals in this work; ideals, indeed, that must contribute to no other than the very highest end of education, character-building. That nature-study has a very significant bearing upon character-building, is a potent force to that end, is a proposition which the author maintains with vigor. In that it contributes to an appreciation of both the beauty and usefulness of nature as well as to the revelation of its law, nature-study enhances not only the power of the noblest faculties of the mind, but increases thereby the individual's capacity for usefulness and enjoyment. Of course such a presentation of nature as the author desires is very decidedly something more than *mere* nature; it is what the human heart has put into its environment, after all (both in racial and individual development), that we call beautiful, inspiring, ennobling. I am inclined to think that this is a fact that should be taken into account in assigning to nature-study its true place in the curriculum. But I know of nothing more commendable in this entire volume than the spirit its author has breathed into the opening chapter. That teacher who cannot undertake lessons on nature in her school in this spirit would better leave them untouched. But this conception of nature-study by no means prevents the realization of other ends:

"The child should gain through every nature-lesson not only training in observation, new knowledge, and added power of expression, but also a greater power to see the beautiful, greater love of nature, and fuller capacity for enjoyment. Observation, knowledge, expression, enjoyment, these should be in some measure the outcome of every nature lesson."

Another commendable point in the author's presentation of this subject is the prominence that is given to quality of work rather than to quantity. I quite agree with the writer that, in the lower grades at least, the question of amount need hardly be considered; that the aims of each lesson, as stated above, call rather for an emphasis of quality, and that the selection of material should be determined by the child's environment.

On the whole, the illustrative lessons in nature-study are very fair guides. I note with pleasure the prominence given to life-processes and unfolding in connection with the study of plants; but there is a tendency, however, to adhere too rigidly to a fixed order of treatment, if these lessons are a fair sample of the author's order. No importance whatever seems to be attached to the observation of nature-groups, as such. Is not this line of observation, however, a very essential one in the right understanding of the individual object? Here, as elsewhere, the author's method is uncompromisingly, but intelligently, objective. The value of making the initial observations of animals those of function is not always appreciated, however. There is also too great a display of original productions of school children; the purpose of these language productions in this book, of course, is exemplification, but certainly one-fourth as many would have served the purpose as well and have been much more inviting. In her temperance physiology, we rejoice to note, the author has preserved what some have lost, her educational temperance.

Another chapter of this work deserving special mention is that treating of language lessons. Here the author undoubtedly recognizes the importance of this work and that practical success depends equally upon analytic and imitative work. Oral language, which is to draw its content from the thought-giving branches, such as nature-study, and to be an ever-present force in the child's cultural environment, is rightly regarded as of first importance. Here, of course, imitation is of chief importance, although the author introduces some very suggestive lessons designed to supplement the efforts of persistent and careful speaking, by calling the pupil's attention in suitable exercises to certain laws of correct speech. Written language is approached in something of the same way, both pictures and literary masterpieces being made use of as sources from which to draw the thought to be expressed. The value of the early use of literary masterpieces in the cultivation of stylistic excellence in the child's speech and writing is well brought out; indeed, this is one of the strong points of the book. But I am not quite sure that the true place of literature (fable, myth, or legend, or artist's masterpiece) can be so formally determined as is here the case in connection with the language work; in fact, one misses the connection with the aim of education as set up by the author.

This brings me to a consideration of the relative value of subjects and the basis of their position in the curriculum. The author has made no attempt to discuss this problem theoretically, yet a certain standpoint has been implied throughout the work. If there is any one subject that receives prominence enough to give a *motive* to the curriculum, it is nature-study. But the author's own grasp of this work shows that she is moved most seriously by the humanistic element in nature, *i. e.*, by the æsthetic and ethical content man has put into his nature environment. Why, then, does she give so meager a recognition to history and literature, including art, if the personal worth of the individual is to be the great end of the teacher's labors? After all, what is there to give the movement to the curriculum, to furnish a principle of succession that shall justly lay claim to pedagogical recognition, if it be not the historical development? Why, then, must the humanistic side of the child's culture wait upon the branches that offer no truly pedagogical principle of succession?

The remaining chapters are as worthy the careful perusal of the teacher as those I have just discussed. I have space for the mention of but one more, that on reading. In this field the author is neither an extremist nor a stickler for devices. She recognizes that two things are essential in acquiring the art of reading: ready recognition of words in connected thought, and independence in the acquisition of new words. Hence we find both the phonic and the word or sentence method recommended, and the illustrations aim at simplicity and essentials in the attainment of the end rather than at artful device. The brief discussion of how to get good expression contains a great deal of good common sense, but one misses one essential point which is seldom given credit for its true value to-day—*imitation*. While it is true that in reading the ultimate court of appeal is the thought and emotion to be conveyed to the hearer, it is equally true that the primal source of our habits in expression when talking, is the imitation of those we are with. It is in this way that we form our standards; but the standards of many children are either false or weak or inadequate; they need to have models placed before them. This calls for the illustrative reading of the teacher far more, we are beginning to think, than our over-scrupulous thought-work sometimes permits; are we not apt to forget that intelligent imitation has its place here as well as in the daily social life of the child, where persistent habit depends so largely upon the impulse to imitate?

It is seldom that one finds a treatise on special method that shows so thorough a mastery of the choicer arts and devices of the skillful and intelligent teacher. The book is replete with those apt and pointed suggestions upon method, management, and training, that will help without making helpless.

C. C. VAN LIEW

NORMAL, ILL.

College requirements in English (Entrance examination papers for 1893 and 1894)—By Rev. ARTHUR WENTWORTH EATON, B. A., Instructor in English in the Cutler School, New York. Second Series. Boston: Ginn & Co., 1894, 104 p. $1.12.

The publication of this book is especially opportune. Mr. Eaton prints as a preface the recommendations of the conference, which met in Philadelphia last May, to discuss the entrance requirements in English. The body of the book contains the requirements in English (and specimen examination papers of the past two years) from nearly every college in New England and the Middle States. Thus we are enabled to see at a glance the obvious chaos of the past and the probable harmony of the future. A comparison of the various requirements, and of the varying examination papers, is as interesting as it is instructive. And it is to be hoped that the report of the conference will call forth a discussion of the principles which ought to underlie the selection of the books set for reading and for study. For such a discussion, Mr. Eaton's compilation furnishes an ample supply of material.

When we find on the entrance requirements for 1898 Books I and II of *Paradise Lost*, and when we see on earlier lists *Twelfth Night* and *A Midsummer Night's Dream*, we ought to remember that the average age at which a candidate enters college is seventeen or eighteen; and we cannot but ask ourselves if these books are likely to be profitable to boys and girls at that stage of immaturity. The love of literature must always be a growth; it cannot be a graft; and it needs tender fostering. To compel the young to study that which they are then unable to understand is likely to give them a strong distaste for the fare thus forced upon them. The proportion of college seniors capable of appreciating and enjoying *Paradise Lost* is not large; and among sub-freshmen the proportion must needs be smaller still. There is no necessity of giving to boys and girls literature so lofty as *Paradise Lost*, or so delicate as *A Midsummer Night's Dream* and *Twelfth Night*. The English language is fortunate in its possession of many books, the beauty and strength of which the young can be made to perceive readily; and it would seem the part of wisdom to set masterpieces of this type for preparatory work, rather than those other poems (higher perhaps or finer) for the full appreciation of which a long training is required.

Excellent are the suggestions of the committee that "each of the whole number of books should be representative, so far as possible, of a period, a tendency, or a type of literature; and that the whole number of works selected for any year should represent, with as few gaps as possible, the course of English literature from the Elizabethan period to the present time." In accordance with the first of these suggestions, we find the best lists divided almost evenly between prose and verse; and of the prose, one book will represent narrative style and another oratorical, while the verse selected will include specimens of lyric poetry and of dramatic. In accordance with the second of these suggestions, the best lists have books written under Queen Elizabeth, Queen Anne, and Queen Victoria, as well as one or more volumes of American authorship.

There would probably be a general agreement among competent instructors that no example of the Elizabethan drama is better suited for classroom use than *Julius Cæsar*. The story and the characters are familiar and easily grasped, the language is simple and easily understood. Second only to *Julius Cæsar* is *Henry V*. Not quite so general in interest, and yet well suited for preparatory work, are *Macbeth* and the *Merchant of Venice*. It would be possible to pick out other plays of Shakspere not unfit for this purpose; but *Twelfth Night* and *A Midsummer Night's Dream* are not among them—for reasons already set forth. But there is no need really to go outside of these four; they could be made to serve in rotation.

For similar reasons, Milton's *Paradise Lost*, *Comus*, *Lycidas*, *L'Allegro*, and *Il Penseroso;* Pope's *Rape of the Lock* and *Dunciad*, Byron's *Childe Harold*, had better not be studied by the average sub-freshmen. Even with the best of teaching, there is a strong probability that the boy of seventeen will learn more easily to hate *Paradise Lost* than to admire it intelligently. And, as it happens, there is an abundance of verse in our language likely to arouse a boy's interest in poetry, and to lead him on to an appreciation of its beauties. Scott's *Marmion*, and *Lady of the Lake*, and his ballads; Coleridge's *Ancient Mariner;* Macaulay's ballads; Longfellow's *Miles Standish*, and his ballads; Whittier's New England legends; Tennyson's *Revenge*, and other battle-pieces in verse—all these lift up the heart of youth.

Representative orations and addresses offer but little difficulty of choice. A speech or two of Burke's and of Webster's suggest themselves at once. Emerson's *American Scholar*, and the *Fortune of the Republic* are both available. All these are to be found on one or another of the lists given in Mr. Eaton's volume. In addition to these, perhaps an inaugural of Lincoln's (with his brief Gettysburg speech), one of John Bright's eloquent appeals, possibly one of Curtis's polished addresses, and certainly Lowell's Birmingham speech on democracy, might well be drafted into the service.

Of written prose also there is wide possibility of selection. Already in use are the Sir Roger de Coverley papers, Lamb's essays, Macaulay's essays on Milton and Addison, Defoe's

History of the Plague, De Quincey's *Flight of a Tartar Tribe*, Thackeray's *English Humorists*, and Irving's *Sketch Book*—all excellent selections. Less satisfactory perhaps are Carlyle's essay on Burns and the greatly overrated *Life of Nelson*, by Southey. Other books which could be enlisted to advantage are Franklin's *Autobiography*, Dana's *Two Years before the Mast*, Parkman's *Oregon Trail*, Emerson's *Representative Men* and *English Traits*, Lowell's essay *On a Certain Condescension in Foreigners*, Holmes's *Autocrat of the Breakfast Table*, and Matthew Arnold's *Sweetness and Light*.

Among the works of fiction to be found on some of the lists in Mr. Eaton's collection is *David Copperfield*. It may well be doubted whether the vulgar style of Dickens does not unfit all of his writings for educational use. It may be the slovenliness of Cooper's style is the reason why *The Spy* and the *Last of the Mohicans* do not appear on any of these lists; but if this is the only reason for the exclusion it is perhaps insufficient. Scott's *Abbott* and *Ivanhoe* and *Talisman* are satisfactory selections, and so are George Eliot's *Silas Marner*, and Hawthorne's *Marble Faun* and *House with the Seven Gables*. Irving's *Tales of a Traveller* deserve the place given them, and so do the *Alhambra* and the *Conquest of Granada*, which have not yet attained the honor; and has not the time come to include *Uncle Tom's Cabin?*

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NOTES ON NEW BOOKS

The mention of new books in this place does not preclude extended critical notice hereafter.

All intelligent Americans will welcome the third edition of Mr. Bryce's *American commonwealth* (New York: Macmillan & Co., 1895, 2 vols., 724, 904 p. $4.00). It is carefully revised and rewritten throughout, and several entirely new chapters are added. Invaluable alike to the American and the foreigner who would study the workings of the great democratic experiment, Mr. Bryce's work will remain for all time one of the greatest achievements in the history of political literature. ——*King John* and *A winter's tale* are the latest additions to the Temple Shakspere, the handiest and most dainty of editions (New York: Macmillan & Co., 1895. 45 cents per volume).——Mr. Beasley has prefixed to his interesting account of *Prince Henry the navigator* a capital summary of geographical knowledge and discovery in the Middle Ages (New York: G. P. Putnam's Sons, 1895, 335 p. $1.50).——The newer and more appropriate methods of teaching and studying rhetoric are bearing fruit in such excellent compilations as *Orations and arguments*, edited by Professor Bradley of the University of California (Boston: Allyn & Bacon, 1895, 379 p. $1.00), in which masterpieces of Burke, Chatham, Erskine, Webster, Macaulay, Calhoun, Seward, and Lincoln are brought together with careful annotations.——*The training of girls for work* (New York: Macmillan & Co., 1894, 214 p. 80 cents) is a sensible, straightforward piece of writing by an Englishman. ——Professor Trotter of Swarthmore has done much to make clear what is meant by geography-teaching in his *Lessons in the new geography* (Boston: D. C. Heath & Co., 1895, 182 p. $1.00).——Seyffert's *Dictionary of classical Antiquities*, so well known and so widely used in Germany, has reached a third edition in the excellent English edition of Professors Nettleship and Sandys (New York: Macmillan & Co., 1895, 715 p. $3.00). ——Professor McMurrich's *Text-book of invertebrate morphology* (New York: Henry Holt & Co., 1894, 661 p. $3.00) easily takes rank at the head of all treatises on the subject intended for college use.——*Radiant suns*, by Agnes Giberne (New York: Macmillan & Co., 1894, 328 p. $1.75), is another of those attractive and amply illustrated works that are bringing the truths of modern astronomy within the reach of the average reader.——Teachers in search of material to use on holidays and anniversaries will doubtless find useful help in *Thoughts for the occasion* (New York: E. B. Treat, 1894, 576 p. $1.75).——A scientific work of a very high order and a capital text-book for college classes is *A students' manual of English constitutional history*, by D. J. Medley, M. A., of Keble College, Oxford (New York: Macmillan & Co., 1895, 583 p. $3.25). The author's arrangement is excellent, his scholarship accurate, and his style clear and interesting.——Mr. Richard A. Gregory of Oxford University expresses the hope that his little book, called *The Planet Earth* (New York: Macmillan & Co., 1894, 108 p. 60 cents), "will help to revive the observational astronomy of pre-telescopic times." It is attractive enough to do so.

XI

EDITORIAL

No excuse need be offered for having devoted the entire March issue of the REVIEW to the admirable and stimulating document called the Report of the Committee of Fifteen. It was possible thereby to render a service to the Department of Superintendence, to which the Report was to be presented, and also to the National Educational Association, whose property the Report, having been presented, became; and in rendering that service we are sure that all of our readers and contributors, had it been possible to have consulted them in advance, would have heartily joined, no matter what pressing matters were postponed or what personal disappointment or inconvenience was caused thereby.

The REVIEW printed the Report by the authority given, and under the conditions stated, in the following resolution, which was certified as having been introduced at a meeting of the Committee of Fifteen by Superintendent Gilbert of St. Paul, and passed unanimously:

> Resolved, That the reports of the three sub-committees be read by their respective chairmen before the Department of Superintendence at Cleveland, in February, 1895, and published in the EDUCATIONAL REVIEW for March, 1895; provided that the publishers of the REVIEW agree to furnish to each member of the Committee of Fifteen and also to each person appointed to discuss the Report before the Cleveland meeting, a printed copy of the Report; and immediately after the meeting to send to each educational journal desiring it, such a printed copy, with the request that it be published in as nearly complete a form as possible.

Not only have the precise terms of this resolution been scrupulously adhered to, but every member of the Department of Superintendence who has asked for it, in pursuance of notice publicly given at Cleveland, has received a copy of the Report—of course, free of charge.

It was obviously the intention of the Committee of Fifteen, in passing the above resolution, to secure as wide a knowledge as possible of the Report. Equally obviously, it was in the interest of the reputation and prestige of the National Educational Association to have the Report, prepared with the assistance of an appropriation from its funds and by a committee selected from its strongest and best-known department, read and studied by every teacher in the land.

But it was the expectation of many, and among them the Editors of the EDUCATIONAL REVIEW, that this Report—expressly styled Preliminary—was to be revised in the light of the discussions at Cleveland and of such other criticism as it might receive, and then published, in a final form, with an introduction and appendices. It was also hoped that this final publication might be arranged for through the Bureau of Education, as that of the Report of the Committee of Ten had been. In a meeting held at Cleveland on the afternoon of Monday, February 18, the Committee of Fifteen discussed this matter. President Draper urged a further attempt to secure unanimity as to the recommendations of the Report, believing that, were such unanimity attained or substantially attained, the Report would be more effective as a guide to practical action. Dr. Harris dissented from this view rather strongly, expressing it as his conviction that discussion and deeper study of the problems involved would be promoted by the fact that the Committee was not unanimous. He further stated that he was exhausted by the labor already given to his part of the Report, and that the pressure of his official duties would render it impossible for him to go over the whole ground again with a view to reaching an agreement among all the members of the Committee. Without any decision being arrived at on this point, the discussion turned to the question whether or not it would be possible to make some publishing arrangement by which the National Educational Association might receive all or part of the profits accruing from the sale of the Report, in order that it might, if possible, reimburse itself for the appropriation made at Asbury Park to pay the expenses of this Committee. At this point, the president of the National Educational Association, who was present by invitation at the meeting of the Committee, stated that, in the interest of the National Educational Association, he had taken the precaution to have the Preliminary Report copyrighted, and that any profits resulting from its sale through the EDUCATIONAL REVIEW would accrue to the National Educational Association. The members of the Committee of

Fifteen characterized this statement as "generous"; which, of course, it was not: the Report being the property of the National Educational Association, it was simply just. After a long and somewhat desultory discussion no formal decision was arrived at and no vote was taken.

The next stage in the history of the Report was the passage of the following resolution, on Thursday evening, February 21, by the Department of Superintendence:

> Resolved, That we recognize the great value of the Report of the Committee of Fifteen setting forth the standards, defining educational values, and furnishing broad grounds for intellectual deliberations and discussion in the future; and that the Committee be, and hereby are authorized to put the Report and such dissenting opinions as they may see fit to use into form satisfactory to themselves, and to print the same, and that the Committee having performed this duty be discharged.

This indicated clearly enough that the Committee of Fifteen were to exercise their discretion as to the form in which the Report should finally appear. Pending action under this last resolution, the president of the National Educational Association is protecting its copyright in the Report, and objecting to the appearance, in pamphlet or book form, of any reprint of it that has not been arranged for either by the Committee of Fifteen or by the executive officers of the National Educational Association. Meanwhile every facility is being afforded for the publication of the Report, in whole or in part, in educational journals; this being contemplated by the Committee of Fifteen in order to spread a knowledge of the Report.

At this time (March 22) the Executive Committee of the National Educational Association and also the Committee of Fifteen have before them for consideration three propositions:

> 1. To give the privilege of issuing the Report in its final form to that publisher or educational journal who makes the highest bid for the privilege.
> 2. To fix a royalty, on payment of which to the National Educational Association, any publisher or educational journal may issue the Report in pamphlet or book form.
> 3. To let anyone who chooses publish the Report in pamphlet or book form, exacting no royalty whatever.

Within a fortnight—perhaps before these pages are read—a definite and permanent policy will have been officially decided upon. Meanwhile the National Educational Association is the sole beneficiary from sales of the Report. The Association is an educational and not a money-making organization. Its first object should be to spread a knowledge of this valuable Report; but there are manifest advantages in having an authorized edition, or editions, of such a document, and to make that possible and effective is the aim of the officers of the Association.

The Committee of Fifteen, it may be necessary to remind some, is, like the Committee of Ten, an outgrowth of the work of the National Educational Association. Both committees were selected with great care, both were appointed by an authoritative body, and both were granted the use of a fund set apart for them by the directors of the National Educational Association. The work of the two committees puts before the country in systematic manner the question of the form, content, and value of the studies that enter into the curriculums of elementary and secondary schools. From this time on, this specific question must be faced both in the study and in the schoolroom. Neither Report makes any pretense of finality, but both take rank as the greatest American contributions thus far made to the scientific study of education.

At a time when public sentiment is demanding better trained teachers, and at a time when great cities like New York and Brooklyn are actively revising their school administration, and others like Philadelphia, Chicago, Boston, and Buffalo are casting about for an improved system of school organization, the parts of the Report of the Committee of Fifteen that deal with those subjects will receive special attention and arouse special interest.

The Committee of Fifteen was authorized and appointed at the annual meeting of the Department of Superintendence of the National Educational Association, held at Boston, Mass., in February, 1893. The members of the committee were: Superintendents Maxwell of Brooklyn (chairman), Seaver of Boston, Balliet of Springfield, Mass., Tarbell of Providence, Poland of New Jersey, Brooks of Philadelphia, Jones of Cleveland, Cooper of Galveston, Gilbert of St. Paul, Greenwood of Kansas City, Powell of Washington, Lane of Chicago, and Dougherty of Peoria, and President Andrew S. Draper of the

University of Illinois, and Dr. William T. Harris. The work of the committee was divided into three parts, and each part was assigned to a sub-committee of five, as stated in this REVIEW for January last.[1]

In one very important respect the Report of the Committee of Ten has an advantage over the most important part of the Report of the Committee of Fifteen—that dealing with the school curriculum. The latter is the personal production of Dr. Harris and is signed by no other member of the Committee. The Report of the Committee of Ten, however, embodied the mature opinions, modified by prolonged conference, of ten persons representing all sections of the country and all phases of secondary and higher education. For this very reason the Report of the Committee of Ten, considered as a representative document, carried an authority and commanded a respect that the work of the Committee of Fifteen cannot and need not hope to equal. The latter Report, however, will be given all the great weight that attaches to Dr. Harris's name and authority.

No one who was present at the Cleveland meeting of the Department of Superintendence is likely to dissent from the opinion that it reached a level never before attained by the larger educational gatherings of the country. Not only was the attendance large, but it was of the quality that makes any meeting excellent. The noisy element was conspicuously absent, and there was none of the disposition, so apparent at Richmond the year before, to stampede the meeting and to turn the platform into an arena. The debates have left a decided impression on the country, particularly that on Dr. Harris's report; a debate which in the opinion of many marked an epoch in the development of our educational theory.

The paper by Mr. Bright on the recent reforms in grammar school work was a statesmanlike production. Courage and wisdom were marked in every line of it, and to say that it produced a deep impression is to do it only scant justice. Miss Arnold and Miss Cropsey delighted the large audience with their contributions to the discussions, and caused regret to be more widely expressed than ever that they are heard so infrequently. Colonel Parker has never appeared to better advantage, and both in discussing Dr. Harris's report and in the eloquent peroration of his closing address, he gave new evidence of his power and eloquence. On Thursday evening his closing paragraphs enthralled the audience, and chairman and audience alike must have regretted that there was anything to prevent their passing quietly out of the hall with Colonel Parker's words undisturbed in their ears and in their hearts. Professor Bryan of Indiana, who has never before spoken to the Department of Superintendence, made a strong impression; and his paper on child-study was wholly free from the exaggeration and false philosophy that not infrequently find foothold in papers on that subject. Superintendent Search's paper on "Individualism in mass teaching" proved to be something of a disappointment, and the writer was unable to reply satisfactorily to the attacks made upon his position.

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[1] IX: 103

The feature of the meeting was the debate, on Wednesday morning, on the report by Dr. Harris on the correlation of studies. Good as this debate was, it would have been still better and more fully appreciated had the printed report been distributed in advance to members of the department. That this was not done was due to a series of unfortunate misunderstandings, the discussion of which now would serve no useful purpose. The general feeling upon the matter, however, was so strong that henceforth, it is safe to say, the admirable example of the Northern Illinois Teachers' Association will be followed, and all reports or papers that are to be the subject of general discussion will be printed and distributed in advance,

Dr. Harris opened the debate, and the other participants were Principal Frank M. McMurry of Buffalo, Colonel Parker, President De Garmo of Swarthmore, Professor C. A. McMurry of Normal, Professor Hinsdale of Ann Arbor, Dr. White of Columbus, Professor Butler of Columbia College, and Superintendent Dutton of Brookline. The time expired before others could be heard, greatly to the regret of the large number who wished to hear Dr. George P. Brown, Principal John W. Cook of Normal, Ill., Superintendent Bright of Chicago, Professor Jackman of the Cook County Normal School, and others. The precise point in debate was really—though not nominally—the possibility of a correlation or concentration of studies within the curriculum. As might have been expected, this drifted into a pretty general discussion of Herbartianism. Dr. Harris had almost entirely passed over the Herbartian contentions in his report, and this drew from the representatives of that movement a pretty vigorous attack. Dr. Harris replied by accepting the doctrine of apperception as urged by the Herbartians, but he attacked the psychological basis of their doctrine of interest. On the whole, then, the discussion dealt most largely with two points: (1) the propriety of using the term correlation to include the interdependence of studies in the curriculum, and (2) the possibility of such interdependence being worked out on the basis of the doctrines of apperception and of interest. The general impression seemed to be that the Herbartians successfully defended their point of view, and that their contentions are worthy of, and must receive, careful study.

All of this diverted the attention of those present from the progressive features of Dr. Harris's report, which are several, and important. In addition to being an elaborate and philosophical discussion of educational values, it advocates putting Latin and algebra into the elementary schools (thus sustaining one of the most important and most violently criticised recommendations of the Committee of Ten), subordinating formal grammar to the study of literature, and unhorsing arithmetic as the despot of the elementary school. These are all excellent points, and we may now look for some progress in bringing these important reforms about.

Next year the Department of Superintendence will meet at Jacksonville, Fla., under the presidency of Superintendent Jones of Cleveland, O.

Among the most interesting school reports that have recently been issued are those of Superintendent Bright of Cook County, Ill., Superintendent Griffith of Utica, the Boston school committee, and a special document by Secretary Hill of the Massachusetts Board of Education dealing with the State examination and certification of teachers.

After discussing clearly and succinctly the plan and equipment of a country schoolhouse, what should be taught under the head of arithmetic, and the vexed question of nature-study, Mr. Bright devotes a few pages of robust English to the despicable attacks that have been made from time to time upon Colonel Parker and the Cook County Normal School. It is refreshing to read his straightforward and emphatic sentences, and his analysis of the controversy is a masterly one. Mr. Bright, at least, knows that in this normal school Cook County has something to be proud of. It is to be hoped that he will bring all of his fellow-citizens to the same point of view.

Superintendent Griffith's report is interesting for its summing up of the results of Utica's experience with departmental teaching. This is so good that it is given in full:

> Few if any cities of the country afford at the present time as good opportunities as Utica to study the relative merits of these two plans. Of our 18 primary departments 11 are organized on the departmental plan, 4 on the grade plan, and 3 have part in each plan. Of the 15 intermediate departments, 13 are on the departmental plan and 2 on the grade plan. Of the 3 advanced departments, the central advanced school has in each room a grade and 6 teachers with the departmental plan in the assignment of classes to teachers: and 2 new schools are organizing on the ordinary grade plan. For the two years during which I have been superintendent here, I have carefully and, I believe, impartially studied the two systems, not in the light of preconceived notions but with the sole purpose of trying to decide which is the better. The results as I have observed them are here placed in two groups, the first of which seems to bear in favor of, and the second against, departmental organization and teaching.
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> ### I. IN FAVOR
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> 1. It allows a freer classification within the department, and probably makes the rapid promotion of the brightest pupils easier.
> 2. Large but backward pupils seem more willing to attend school because they are not exclusively with very small pupils.
> 3. The assembling of all the pupils of a department or school in a large room for devotional and other exercises is conducive to the unity of the school.
> 4. The advantage of a quiet room for study is afforded pupils who are not in recitation.
> 5. Needed change of position and exercise is constantly given pupils in passing to and from classes.
> 6. Teachers may teach classes they most like and are most competent to teach.
> 7. Poor teachers do less injury because they can be assigned to the so-called less important subjects; and the effects of poor disciplinary powers are less disastrous upon the general order of the school.
> 8. Because she can concentrate her interest and ability, a teacher of ordinary strength in higher grades will do better teaching of her subject viewed as isolated from other subjects.

II. AGAINST

1. There are no desks upon which to write in recitation rooms.

2. Much valuable time is used in the passing of classes.

3. Fewer pupils can be well taught by the same number of teachers.

4. Good teachers are required to do more than their share of the work in order that poor teachers may not so seriously injure the school.

5. Poor teachers can be effectually hidden.

6. It causes loss of time by teaching separately what belongs together.

7. It does not secure so good results, with an equal expenditure of time and strength, in the so-called instrumental subjects; for, do what we may, the teacher of arithmetic or geography does not hold herself as much responsible for the reading, spelling, use of language, and penmanship, as if she taught them. The best results of incidental teaching are largely lost.

8. It narrows the teacher both intellectually and in her sympathies for the children. This necessarily affects the school injuriously.

9. It greatly hinders and lessens the best results that may come from the correlation of studies, though it does not absolutely preclude such correlation.

10. It encourages advancement in special subjects rather than an all-around, harmonious development. Hence it lends toward an unbalanced education. A principal may lessen, but he cannot entirely hinder, this.

11. A teacher's influence in the formation of her pupils' character is very much lessened, The opportunities for influencing the character of a pupil are many more and much better if the teacher knows him in all his school work and life for even one year, than in only one subject for two or three years. To be sure the influence of a bad or weak teacher is correspondingly greater; but the advantage lies in the fact that by the grade plan such a teacher is soon revealed and may be dismissed, while in the department plan she may continue only partially known for years.

NOTE.—Of the above, Nos. 3, 4, and 5 of the first group and Nos. 1 and 2 of the second group are more the result of the ordinary arrangement of buildings than inherent in either the departmental or grade plan of organization and teaching.

From these results, all of which I have found during my study of the problem, I conclude:

1. In primary and intermediate grades the grade room plan is very much preferable.

2. In high school grades the departmental plan is preferable.

3. In the advanced grades—the last two or three below the high school—with strong teachers well educated and well trained, the grade room plan is preferable; with teachers as they average the advantages seem more nearly equal; but even here, with my present light and experience, I favor the grade room plan.

The Boston report shows progress in many directions. Not the least important of these is the partial emancipation of the superintendent from his hitherto undignified status. This point has already been discussed in this REVIEW.[2] Evidences of growth and development are also apparent in the kindergarten and manual training work, and departmental teaching is having a full trial in the grammar grades.

In this connection it may be mentioned that Superintendent Balliet of Springfield, Mass., has been trying departmental teaching in the grammar schools under his direction. In his last annual report he bears this testimony to the success of the method: "Departmental teaching has been extended in nearly all our grammar schools as far as the seventh grade inclusive. In a few studies it has been extended below this grade. Wherever it has been tried in our schools the results have been good. I believe, however, that it is not well to have a teacher teach only one branch under the departmental plan. Each teacher ought to teach at least two or three branches, and these should form a group of closely related subjects. In this way teachers are not so apt to become narrow in their work, and related things are more likely to be taught in their true relations."

The handsome and effective *Bulletin* of the July meeting of the National Educational Association has just been issued by the Denver local committee. It contains the full programme both for the sessions of the Association and for those of the several Departments. The extremely low railroad rates, the great attractions of Denver and Colorado, and the promise of an unusually large and enthusiastic gathering, ought to attract the teachers in immense numbers from all parts of the country.

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[2] VIII: 512

EDUCATIONAL REVIEW

MAY, 1895

I

THE COLLEGE COMMENCEMENT[1]

The publication in a recent number of the EDUCATIONAL REVIEW[2] of the address given by Professor von Holst at the first convocation of the University of Chicago, and the issue in pamphlet form of the address of Professor Howard at the second commencement of Stanford University, call renewed attention to the ease with which new institutions are able to break from the trammels of the traditions, customs, usages, and precedents that hold in bondage older institutions. These two addresses, given by two distinguished members of the faculties of the new universities, are earnest, vigorous, profound discussions of great educational questions, and as such have commanded the attention of all interested in educational affairs.

In striking contrast to these scholarly productions is the programme of an early commencement of Columbia College now hanging on the walls of the Columbia library. The order of the day includes a procession formed on the college green with the janitor at the head, and leading up through students of physic, students of arts, the president of the college, members of the legislature and strangers of distinction to the vice president of the United States and the governor of the State. The exercises comprise a salutatory address, " De statu hominum"; a forensic disputation on the question, "Are the mental powers of women equal to those of men?"; orations on "Fame," "Love," "Memory," "Gratitude," "Commerce," and "The dignity of man," the programme closing with the statement, "It is presumed to be unnecessary to request the audience to abstain from clapping and every other impropriety which does not comport with the solemnity that ought to be observed on such occasions." The Columbia commencement of 1808 is modern, however, and almost frivolous in comparison with the even more grave and dignified exercises of a still earlier period. In 1789 President Washington and the principal officers of the government were present; in 1787 the Legislature attended the exercises; in 1774 four of the orations had been delivered in Latin; previous to 1765 there had been no music to enliven the proceedings, and at the third commencement in 1760 President Johnson delivered a Latin address to the governing body of the college.

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[1] The writer is indebted for assistance in the historical facts concerning Columbia College to Mr. John McMullen and Miss A. Underhill, in regard to Yale University to Miss M. L. Greene, and in regard to Harvard University to Miss C. A. Start.

[2] V: 105

But Columbia College itself is almost a modern institution in comparison with Yale, whose foundation antedates it by more than half a century. President Clap grows eloquent over the "splendid commencement" of Yale in 1718, the first public one held in New Haven, "where were present, besides the Trustees, the Honorable Gurdon Saltonstall, Esq; Governor of the Colony of Connecticut; the Honorable William Taylor, Esq; as representing Governor Yale, the Honorable Nathan Gold, Esq; Deputy Governor, sundry of the worshipful Assistants, the Judges of the Circuit, a great number of Rev. Ministers and a great Concourse of Spectators." After various exercises, "the Rev. Mr. John Davenport made a florid Oration wherein he largely insisted upon and highly extolled the Generosity of Governor Yale," and then "the Honorable Governor Saltonstall was pleased to Grace and Crown the whole Solemnity with an elegant Latin oration."[3] The commencement of 1718 was exceptional in that it commemorated the removal of the college to New Haven and also the generosity of Elihu Yale and other friends of the institution in

[3] Thomas Clap, *Annals of Yale College*, pp. 24, 26.

England. The harmony that finally resulted, after the bitter feeling caused by the location of the college in New Haven, was broken in 1722 by the discovery that the rector, Mr. Cutler, and one of the tutors, had decided to leave the communion of the Connecticut churches and to go to England for Episcopal ordination.[4] The matter seemed of such importance that Governor Saltonstall, "a learned and distinguished gentleman," "publicly disputed at the commencement with Mr. Cutler on the subject of Episcopacy." As at that time there was not a single clergyman of the Episcopal order in the Colony, and but very few of the laity were "Episcopally inclined," it is not surprising to learn that the learned and distinguished governor "was judged by the clergy and spectators in general, to have been superior to Mr. Cutler as to argument, and that he gave them much satisfaction relative to the subject."[5]

The subsequent commencements of Yale included on their literary side syllogistic disputes in Latin by the students, the disputants standing in the side galleries opposite each other where they "shot the weapons of their logic over the heads of their audience." The orators stood in the front gallery and "the audience huddled around below them to catch their Latin eloquence as it fell."[6] The first public commencement under President Stiles, in 1781, was an occasion of special interest. The exercises were varied by the introduction in the morning, in addition to the usual programme, of a Greek oration, an English colloquy, a forensic disputation and an oration by President Stiles in Hebrew, Chaldaic, and Arabic, while the afternoon began with a Latin discourse by President Stiles, followed by syllogistic disputes by the Masters, a dissertation, a poem, and an English oration.[7] Early in the present century the use of Latin was abandoned except in the salutatory and in conferring degrees, but there was no abatement in the matter of time. As late as 1857 there were twenty-three speakers in the morning and nineteen in the afternoon, the exercises beginning at nine in the forenoon and closing at seven in the evening, with a noon intermission of an hour and a half for the commencement dinner.

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[4] Ibid., p. 31.

[5] Thomas Clap, pp. 31–32; E. Baldwin, *Annals of Yale College*, pp. 37–38; T. B. Chandler, *Life of Samuel Johnson*, p. 26.

[6] President Cyrus Northrup, in Kingsley's *Yale College*, I, 372–373.

[7] Ibid., I, 373.

It was not with the literary part of the entertainment, however, that the corporation of the college was specially concerned, but with its attendant features of noise, expense, and drunkenness. As early as 1731 the firing of cannon on commencement day had become common. In 1755 the corporation ordered that "if any Freshman should be any way accessory to the firing of the great guns at the Commencement, their Freshmanship should be continued one Quarter of a Year longer, and during that Time they should be obliged to go on Errands and not have Liberty to send a Freshman on any Errand, nor to wear a Gown." Since "the firing of the great Gunn, and Squibs and Crackers, and other great Disorders, have sometimes attended the Elumination of the College on the Evening before the Commencement," it was ordered that "if the aforesaid Disorders should continue, the Elumination should be wholly suppressed, and that the charge found necessary to prevent the Bells being rung at any time contrary to law, should be paid by all the undergraduate students."[8] The moving cause of "the firing of the great guns" had apparently been the "great Expense in the spirituous distilled Liquors in College, which is justly offensive." As early as 1737 it was voted "That for y^{e} future no candidate for a degree nor undergraduate student shall provide or allow any Brandy, Rum, or any other spirituous distilled Liquors to be drunk in his Chamber during y^{e} week of y^{e} Commencement," on penalty of being debarred the future honors of the college.[9] Strenuous measures were again adopted in 1746 and subsequently in 1760. In the latter year the corporation voted to abolish the custom that had prevailed for the graduates "to purchase a Pipe of Wine jointly," and decreed "that each one by himself may obtain Liberty to get such a Quantity of Wine

[8] Ibid., I, 369–370.

[9] Ibid., I, 369.

as the President shall think proper, and shall not get or speak for any more." Three months later the corporation voted that no candidate for a degree should have more than two gallons of wine. But no legislation seemed effectual, and in 1761 the corporation, "being fully determined to put a stop to these vicious and extravagant Practices which have, for many years past, attended the Public Commencements," conferred the degrees at the July examination, thus avoiding the public commencement. It was apparently this substitution of the private for the public commencement that proved the most effectual means of suppressing the disorders of commencement week.[10]

The first commencement of Harvard College took place in 1642. "Upon this novel and auspicious occasion," writes Benjamin Peirce, "the venerable fathers of the land, the governor, magistrates, and ministers from all parts, with others in great numbers, repaired to Cambridge, and attended, with delight, to refined displays of European learning, on a spot, which but just before was the abode of savages." [11] The exercises "were Latine and Greeke Orations, and Declamations and Hebrew Analysis Gramaticall, Logicall, and Rhetoricall of the Psalms; And their Answers and Disputations in Logicall, Ethicall, Physicall, and Metaphysicall Questions; and so were found worthy of the first degree, (commonly called Batchelour) *pro more Academiarum in Anglia.*" [12] The "refined displays of European learning" with which the young men entertained "the venerable fathers of the land" included, among others, disputations on the theses *Linguarum Scientia est utilissima*, *Hæbræa est Linguarum Mater*, and *Lingua Latina est eloquentissima.* "Nine bachelors commenced at Cambridge; they were young men of good hope, and performed their acts, so as gave proof of their proficiency in the tongues and arts."[14] Later in the seventeenth century it came to be customary for the president to deliver an address on commencement day in addition to the orations and disputes of the students. Judge Sewall relates that President Mather, after conferring the degrees in 1685, delivered an oration in Hebrew in praise of academical studies and degrees.[15] In 1688, while William Hubbard was officiating as temporary president under the appointment of Governor Andros, he gave a commencement address in which he compared Sir William Phips, who had been knighted for discovering and taking possession of the wealth of a sunken Spanish galleon, to Jason bringing home the golden fleece.[16] At the installation of President Wadsworth in 1725 there was the usual procession from the college to the meeting house, beginning with the bachelors of art and leading up through the official grades of masters of art, president-elect, and members of the corporation to the Honorable Lieutenant-Governor Dummer and the Council. After the badges of authority had been conferred on the president-elect he "pronounced *memoriter* a Latin oration," and afterward presided at the usual commencement exercises.[17]

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[10] Ibid., I, 369–372.

[11] *History of Harvard University*, p. 9.

[12] *New England's First Fruits*, p. 31.

[13] Hutchinson, *History of Massachusetts*, I, 444–446, gives the theses entire as his "chief design is to preserve from oblivion every transaction which posterity may think of any importance." A copy is also found in *New England's First Fruits* pp. 32–36.

During this century the chief efforts of the corporation and overseers were apparently directed to the task of restraining the great expense entailed on commencement days by the convivial habits of the students and the consequent disorder. In 1722 both bodies prohibited the "preparing or providing either plumb cake, or roasted, boiled, or baked meats, or pies of any kind," and from having in their chambers "distilled liquors or any composition made therewith," under penalty of being "punished twenty shillings to be paid to the use of the College" and of forfeiture of the provisions and liquors "to be seized by the tutors."[18] On commencement day the president and members of the corporation were accustomed to visit the rooms of those taking part in commencement "to see if the laws prohibiting certain meats and drinks were not violated."

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[14] Winthrop, *History of New England*, II, 87.

[15] *Diary*, I, 85.

[16] Ibid., I, 219.

[17] Josiah Quincy, *History of Harvard University*, I, 377–378; Peirce, p. 146.

[18] Ibid., I, 386.

But this course was apparently not effectual, and in 1727 a vote passed the board of both corporation and overseers that "Commencements for time to come be more private than has been usual; and, in order to this, that the time for them be not fixed to the first Wednesday in July, as formerly, but that the particular day should be determined upon from time to time by the Corporation, and that the Honorable and Reverend Board of Overseers be seasonably acquainted of the said day and be desired to honor the solemnity with their presence." [19] Three months later it was voted that "if any who now do, or hereafter shall, stand for their degrees, presume to do anything contrary to the act of 11th of June, 1722, or *go about to evade it by plain cake*, they shall not be admitted to their degree, and if any, after they have received their degree, shall presume to make any of the forbidden provisions, their names shall be left or rased out of the Catalogue of the graduates." [20] The following year the Governor was requested to direct the sheriff of Middlesex to prohibit the setting up of booths and tents on commencement day, and in 1733 there was an interview between the corporation and the justices of the peace in Cambridge to concert measures to keep order at commencement, a request being made for a special detail of six constables for the grounds on commencement day and the night following.[21] During the administration of President Wadsworth Friday was made commencement day "that there might be less remaining time for frolicking," and only a short notice was given to the public of the day on which it was to be held. But as commencement was considered a great holiday in Boston and vicinity this plan became unpopular, while the clergy complained that it was inconvenient for them to get home if the day were fixed for Friday, and in 1736 Wednesday was again selected.[22] The parents became concerned in the matter, and in 1749 three gentlemen having sons about to be graduated offered to give the college one thousand pounds, provided "a trial was made of Commencements this year, in a more private manner." In view of the low state of the treasury the proposition was accepted by the corporation but refused by the overseers.[23] All of these efforts proved ineffectual, and in 1754 the great expense of commencement day was still deplored as tending to discourage persons from giving their sons a college education, and additional sumptuary laws were passed in that year, chiefly affecting the matter of dress.[24] The day was still regarded as a holiday in the Province, and the Cambridge common was covered with booths; gambling, rioting, and dissipation being found on every hand.[25] In 1757 both boards voted "that the first and second degrees be given to the several candidates without their personal attendance," and in 1760 all unnecessary expenses were again forbidden by votes of both boards, and also all dancing in any part of commencement week, in the Hall, or in any college building.[26] In 1761 there was a slight relaxation, for both boards decided that "it should be no offence if the scholars, in a sober manner, entertain one another and strangers with punch, which, as it is now usually made, is no intoxicating liquor."[27] In 1775 it was voted that "on account of the confusion and distress of the times, a public commencement was impracticable."[28] After the close of the war there was apparently little discussion on these matters attendant on commencement that had so troubled the authorities of the college down to that time.

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[19] Ibid., I, 386.

[20] Ibid., I, 387.

[21] Ibid., I, 387.

[22] Ibid., I, 396.

The literary exercises of the day were much the same as those indicated in the account of the first commencement. The earliest programme preserved in the Harvard library, that of 1811, shows orations by all the members of the graduating class on the usual abstract and theoretical subjects. There is a conference "On the mineral, vegetable, and animal kingdoms as furnishing subjects of interesting inquiry," and another "On reflection, reading, and observation as affording knowledge of human nature"; a dissertation "On the diversity of the talents among mankind," and a second "On the dependence of the mental operations on the conditions of the corporal frame"; a colloquy "On the influence of the multiplication of books on the interests of literature and science"; a philosophical disputation on "Whether the climate of any country have undergone any permanent change"; and a Greek poem "On the discovery of Herculaneum." The exercises of the candidates for the master's degree comprised an English oration "On the influence of philosophy on Christianity," and a valedictory oration in Latin, both of the candidates being honored as usual with the title *Mr.* prefixed to their names, thus distinguishing them from the candidates for the bachelor's degree, whose names appeared without titles.

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[23] Ibid., II, 92–93.
[24] Ibid., II, 91.
[25] Ibid., II, 92.
[26] Ibid., II, 94.
[27] Ibid., II, 95.
[28] Ibid., II, 165.

The commencement programmes of the present century are all of similar character. Until about 1850 at Harvard and 1870 at Columbia, the topics discussed are all abstract and general in character. They comprise orations on "True greatness," "The present and the future," "Silent cities," "Twilight," "The nurture of the mind," "Truth," "Self-sacrifice," "A retrospect," and scores of others, all savoring of the programmes found to-day in the fashionable boarding school, and absolutely without connection with modern thought and action. In Columbia in 1871 for the first time five of the orations are on modern subjects, one of them being on the Franco-Prussian war.

The religious element found place in the prayers and the collect for the day with which the early commencements at Columbia were opened, the exercises also being closed with prayers. President Clap tells us that at Yale "the president begins the solemnity with prayer, and concludes the whole solemnity with a prayer,"[29] while the same custom prevailed at Harvard. The attendance of large numbers of ministers, and the fact that the exercises were usually held in the church, all added to the "solemnity" which seems to have impressed all those attending these early commencements.

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[29] *Annals of Yale College*, p. 88.

In addition to the prayers and to orations by the students, a third element, music, was found. Dr. Samuel Johnson, subsequently the first president of Columbia, was present at the commencement of Yale in 1718, and mentions that at the close of the exercises "we sung the four first verses of the 65th Psalm, and so the day ended." The exercises of 1819 closed with sacred music at both sessions, and it was not until 1846 that sacred music disappeared. Only ten years before this, music was apparently introduced for the first time at Harvard. Columbia's "band of musicians" appeared as early as 1808, and there is no evidence that the music was sacred in character. Anthems formed part of the exercises as early as 1765.[30] As late as 1871 at Columbia the musical part of the programme comprised waltzes, polkas, gallops, and mazurkas, while the exercises of 1868, after a salutatory in Greek, Latin, English, and German, appropriately closed with Thalberg's variations of "Home, Sweet Home."

A fourth element is found in "the elegant entertainment" that followed the first commencement of Columbia in 1758.[31] In this the college was but following the example of Yale, where, at the first commencement in New Haven in 1718, after the Latin address of Governor Saltonstall, "the gentlemen returned to the College Hall, where they were entertained with a splendid dinner and the ladies at the same time were also entertained in the library." These splendid and elegant entertainments for high officials and their guests, which were found at all the colleges, and soon developed into the typical commencement dinner, had their counterpart among the students in the various dinners given by them on commencement day. Both at Yale and at Harvard, as has been seen, the great expense entailed by these entertainments was deplored, as were also the gross disorders and drunken revelings with which they were accompanied.

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[30] N. F. Moore, *Historical Sketch of Columbia College*, p. 48.

[31] E. E. Beardsley, *Life and Correspondence of Samuel Johnson*, p. 241.

In all of these early commencements certain principles stand out clearly:

The first is the recognition of the dependence of the college on civil authority. This is seen in the attendance at the exercises and participation in them of the high officials of the colony, State, and nation, the fact that the day was regarded as a holiday in Massachusetts, and in instances where the general court attempted to show their control over the college.[32] The recognition of the state in the exercises of commencement day was but the natural sequence of the early dependence of the colleges on public funds.

The second principle is the equal recognition of the Church on these occasions. This is seen not only in the prayers and sacred music that formed part of the programme, but in the attendance of large numbers of ministers and the arrangement of a day to suit their convenience. This again is but a natural sequence of the union of Church and state found in New England Colonies, and apparently accepted by Columbia College in its request of the Colony to raise funds through a lottery and in its ecclesiastical control.

A third principle is found in the provision for the social needs of those attending the exercises. The music and "the elegant entertainments" were but the outward expression of this desire to combine the social with the intellectual element. Ebenezer Baldwin, in writing of the Yale commencements, says: "The usages of our country have rendered annual Commencements of Colleges, fit and interesting occasions for social meetings of the fashionable and learned of the land; and so elevated has become the character of these assemblages, that gentlemen the most distinguished in professional rank, and statesmen of the most commanding influence, receive as compliments, invitations to assist in collegiate performances." [33]

A fourth principle is found in the desire to offer not only social but intellectual entertainment. "Quarterly and Commencement exhibitions are justly regarded as a proper means of exciting academic ambition, creating popular interest for the pursuits of learning, and diffusing a refined taste for intellectual amusement," continues Mr. Baldwin.[34] The exercises were primarily an exhibition of what the students could do as a result of their four years' training, and this exhibition was given to interest the general public in educational affairs. There is no indication that the intellectual part of the programme was ever regarded in any other light. The exhibition naturally took the form of a display of what the students had accomplished in Latin and logic as regards the external form of presentation, while the subjects selected ranged over every impracticable, theoretical, and general subject in the universe of mind and matter. The subjects were usually selected by the students themselves subject to the approval of the professor of rhetoric, who also revised the essays before their delivery. At the middle of the eighteenth century at Harvard the duty was assigned to the president of expunging all exceptional parts in the performances of the day, and he was particularly enjoined "to put an end to the practice of addressing the female sex."[35]

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[32] Benjamin Peirce, *History of Harvard University*, p. 128.

[33] *Annals of Yale College*, p. 194.

The expense attendant on the exercises was deprecated in all the colleges, as was also the consequent disorder and "drunken revelling." Apparently the only means used for checking it were sumptuary laws and efforts to substitute private for public commencements, neither of which seemed to be effectual.

With the superior wisdom of the latter half of the nineteenth century, we are inclined to look on these early commencements as belonging to a primitive educational system having no connection with our own. But the commencement of to-day is the lineal descendant of the commencement of the seventeenth and eighteenth centuries. It has in the East lost somewhat of its civic character owing to the gradual change in the higher educational institutions from public to private control, but the religious, musical, and social features are still retained, as well as the most prominent characteristic, that of the exhibition and the desire to entertain the public. The modern commencement is still a display of what the students can do, and as such is connected not only with the early commencement, but with the exhibitions of the district school where the pupils "speak pieces," engage in dialogues, and sing glees. The educational system of to-day differs widely from that of two hundred years ago, but the commencement is still in essential features the same and is open to many grave objections. What are these objections?

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[34] Ibid., pp. 193-194.

[35] Josiah Quincy, *History of Harvard University*, II, 95.

In the first place the exercises of the day, as in general carried out, no longer represent progress in educational affairs. Other primeval conditions have been swept away by the advance of modern thought, but the commencement is a survival of what was never the best and is now one of the worst features of our educational system. Required work, elective courses, laboratory methods, and all modern improvements come and go, but the commencement apparently goes on forever.

In the second place it presents, as it always has, in its external features, the appearance of an intellectual crazy quilt. With its orations from students *de omnibus rebus et quibusdam aliis*, it is utterly lacking in organic character. Each department must be "represented." The audience, therefore, gives its attention for ten minutes to the classics, and for another ten minutes to biology: it is then diverted by mathematics and subsequently by history, literature, and philosophy. Information and opinions on all these subjects are dealt out in homeopathic doses, and the time having thus been divided among the different departments with astronomical precision, the audience leaves, presumably in a state of mental dyspepsia. Special parts of the programme are also open to objection. The absurdity of a Latin salutatory has been generally abolished, but the English salutatory is retained. The valedictory is equally out of place. The one hundred and more valedictories of an institution all have a general family resemblance.

The public farewell must assuredly seem trite and inexpressive to ears that have heard it for one or two generations. But the special objection to the valedictory is the emphasis it gives to the idea that the commencement brings "the ending end." The college graduate should be made to feel the commencement is indeed the beginning not the end of his work. The spectacular effect of this intellectual patchwork is sometimes fine, but it is at least an open question whether spectacular effects are a legitimate object in the educational field.

A third objection is the inherent difficulty of carrying it out. The time allowed each speaker is always short, probably seldom exceeding ten minutes. The fact that the primary object is to entertain the audience necessitates the choice of a somewhat broad and general subject. The speakers thus have the extremely difficult task of putting a large subject on a small canvas. The task is one requiring great skill and long practice. Few persons of greater age and experience would be willing to attempt a public address on "immigration," "the jury system," "responsibility of the press," or any other favorite commencement theme and be confined to ten minutes. But immature students, with little or no practice in public speaking, are expected to do what would appall an older and more experienced speaker. Moreover, it must be evident that some subjects, by their very nature, demand much fuller discussion than others. Yet all are subjected to the same procrustean treatment. If the paper is too long, the peroration or the exordium is lopped off, the illustrations are cut out, or the middle term of the syllogism is dropped. In any case there is left but a maimed and amputated remnant in the place of the ideal with which the essayist began. Sometimes, though probably very seldom, the opposite policy of "padding" must be resorted to in order that the allotted time may be filled. The speakers are, as a rule, embarrassed and self-conscious, and in many cases are unwilling participants in the exercises. Often essays must be prepared in addition to the usual college work, and it is no slight interruption to have this special task thrust into a schedule already well filled. The students themselves are often in this respect wiser than their instructors, and not infrequently decline the honor when it is possible to do so. The Harvard correspondent of the New York *Times* writes: "Of the large number of men to whom commencement parts are assigned, very few care enough for the honor of delivering them to take the time and trouble to prepare the necessary essays."[36]

In the fourth place, the system is inextricably bound up with the so-called "honor" system. With the increasing numbers in the graduating classes, and the growing desire to shorten the exercises, it is impossible for every member of the class to appear on commencement day, and some principle of selection becomes necessary. The principle usually chosen is the appointment as speakers of the day of a certain number of those who have maintained a high standard of work throughout the college course. The incentive held out to the student from the beginning to the end of his course is thus not work for work's sake, but the doubtful honor of appearing on the platform on commencement day. No system more pernicious or more destructive of the right spirit of work could well be devised. Count von Moltke well says: "The value of our life on earth will not be judged by the success, but by the purity of our endeavors and our perseverance, even where there was no visible result. We ourselves do not even know what we owe to others, and how much to a higher will. It will be good not to put too much to our own account." The value to a student of a college course cannot be judged by the visible result of an appearance as a commencement speaker, and he deserves the reward of a good conscience who at the end of a college course can feel that he has done the best possible. It is safe to say that if these "honors" could be done away with, the commencement programme of to-day would die a natural death.

A fifth evil is the deleterious influence of the system on the students themselves. It is undoubtedly true that the best students in every college are opposed to it. But in the mind of the average student, the one without creative ability, the one with abnormal powers of absorption, a commencement honor has a fictitious importance out of all proportion to its true value. As many persons go through life known simply as a graduate of this, that, or the other college, so others achieve the climax of their reputation in being known as "an honor student." It is a popular belief, which has, however, been controverted by statistics, that nothing is ever heard of valedictorians in after-life; but it is undoubtedly true that in many cases an appearance on commencement day has acted as a check on farther exertion rather than as a stimulus to it.

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[36] New York *Times*, June 4, 1894.

A sixth most serious objection is the deteriorating effect that the present college commencement has on the closing exercises of the secondary schools. Every high school has now its "commencement," where young men in dress suits and young women in evening gowns deliver "orations," read essays, and receive blue-ribboned diplomas amid flowers, costly presents, and the applause of admiring spectators. The evil in some cities descends to the graduates, as they are termed, of the grammar schools. The opera house is engaged, and the same scenes are re-enacted as are familiar in connection with the high school. The evil of the public bestowal of presents on the members of the graduating class has happily been outgrown in the larger colleges, but it flourishes in undiminished vigor in smaller institutions and in the secondary schools. In one large State normal school it is the custom to have all gifts to the graduating class displayed on tables in an adjoining room. If the ushers in charge find that anyone, through lack of acquaintances or general unpopularity, has not received a remembrance, the members of the faculty are apprised of the fact and asked to contribute a small sum. With this an usher hastens to purchase a floral offering at the nearest greenhouse, and thus each graduate has at least one gift to display. The collection is a motley one, comprising not only flowers in all the elegance of set pieces of the most elaborate florist's art, but oil paintings, photographs, books, silver, bric-a-brac, and probably everything except articles of clothing and kitchen furniture.

But little can be said in favor of the present arrangement. The argument is sometimes used in its favor that the public likes it, and that the college is in duty bound to gratify the desire. But this is an assumption that has not been and cannot be proved, and, even if it could be, it by no means follows that the college is obliged to gratify the whims of the floating public that makes up the usual commencement audience. Class day is pre-eminently the students' day, and this gives, or ought to give, sufficient opportunity for the display of the ability of the students in matters of intellect and attire.

The only direction in which, with the exception of the change proposed by Yale, an improvement has as yet been made is in the custom that has of late years been introduced into some colleges of substituting for the essays and orations of students an address by some distinguished speaker from abroad. This plan obviates several of the most serious objections to the present arrangement, but, as it retains the notion that the primary object of the occasion is entertainment, it ought to be but a temporary expedient, marking a desire for improvement, but only one step toward it.

What should an improved order of commencement exercises aim to secure?

First of all there should be the abolition *in toto* of every idea of entertainment, diversion, display, or exhibition. It must be assumed that every person present is there primarily because of his interest in general educational affairs and not because of interest in individual members of the graduating class. The recognition of this interest must be given in exercises adapted to meet it.

It should, in the second place, be considered an opportunity for public discussion of educational subjects of general interest. Such opportunities are rare. These discussions are at present confined to educational conferences, where educators speak to those having similar interests, generally on subjects more or less technical in character; or to educational reviews, where the same speakers address the same audience. Occasionally such discussions are found in the press, but it is seldom that editors are themselves educators, and they speak, therefore, from the standpoint of outsiders. No medium of communication at present exists between specialists in the educational world and the public at large—no means of publicly discussing the great educational questions of the day. Every political campaign affords an opportunity for an education—crude, it may be, but still an education—in history and economics. No similar opportunity exists in education. Educational questions of the gravest import are now decided by those who are ignorant of every fundamental principle in education. If progress is to be made, it must be by gaining the public ear through the words of educational experts. That interest in the subject has been aroused is shown by the widespread attention attracted by recent articles on the subject in various popular magazines, although many of these have been written by persons not specially qualified to speak with authority. The opportunity for progress is presented in the exercises of commencement day. Few persons are now so situated as to be able to gather up and present the best educational thought of the day; but a change in the spirit and aim of the commencement exercises would make this possible.

The literary part of the programme should not be given by students or by a speaker from abroad. Substituting for the old idea of entertainment and display that of discussion and instruction, the address should be given by some one intimately connected with the educational control of the college, and should relate to affairs of general progress as well as to specific questions involved in the conduct of the college whose commencement is celebrated. Such an address might well be given by a trustee of the institution, should the college be so fortunate as to possess one specially conversant with educational affairs and chosen a member of the board on that account rather than because of financial or sectarian influence. Occasionally a distinguished alumnus of the college, who is actively engaged in educational work, might be called on to discuss educational affairs, particularly those of his *alma mater*. The undergraduates of a college seldom know the eminent names on the roll of its alumni, and such an address would thus afford an opportunity not only for friendly discussion of common interests, but for that personal knowledge of older men which is so often an incentive to the highest and best work. The address might also well be given by the president of the college. Two things, however, militate against such a policy as a fixed feature of the day: First, the fact that the president usually delivers the baccalaureate address, and thus speaks to the mass of the students on the higher or moral objects of a college course, and, therefore, should not be called on to give a second address; and, again, the fact that the president of a college has come to represent far more than did his predecessors of a hundred years, or even of a generation ago. Formerly he was primarily the religious head of the institution, and in a secondary way its educational head. With the increased and increasing need of endowments, he has come to be a layman or an ecclesiastic noted for his ability to secure large gifts and bequests. He must be a man of social success to secure these large endowments, and he must be a man of affairs to manage them successfully. There are rare exceptions, where a person succeeds equally well as the religious head, the educational head, the administrative head, and the social head of an institution; but it is safe to assume that the average college president does not. The tendency, moreover, must ultimately be against the assumption by any one person of all these functions.

But the most fitting persons to represent the institution on such an occasion are the members of its faculty. In the evolution of that peculiarly American educational officer, the college president, it has come about that he alone represents the institution to the outside world, and is regarded as the embodiment of its educational policy. But with the increasing demands on his time, both social and financial, this must come to be less and less true. The great educational work of a college must be carried on by its faculty; they must shape its educational policy, and they must be the ones to justify this policy before others.

Much can be said in favor of calling on a member of the faculty to give on commencement day an address on an educational subject. Its first advantage would be to emphasize the fact that his primary interest is and should be in education in general, and not in that subordinate branch of knowledge in which he is called on to give instruction. With the present tendency toward specialization, some outward influence is needed to call back a college instructor to a recognition of this fact, although his theory as to the relative position of the two may be unimpeachable. Absorbed in his own special investigations, he often loses a sense of educational perspective, which can be regained only through some influence from without. From the regaining of this sense of perspective would grow a feeling of responsibility in regard to educational affairs that is now often present only in a latent form.

Another advantage would be the knowledge often gained by both the faculty and students of a college in regard to its own members. It not infrequently happens that the member of a faculty most distinguished in the intellectual world is the professor of astronomy, geology, or of comparative philology. Such instructors, by virtue of the subjects on which they lecture, meet but limited numbers. The mass of the students seldom come in contact with them, and are often ignorant of the fact that the reputation of the college is due in no small degree to the exhaustive researches and literary ability of those in charge of these departments. An address at commencement by such a professor would enable him to meet the student body who do not know him, and to appear before his own students in a new light. He is at once removed from the narrow sphere of the specialist, and becomes for the time being the representative of general educational interests. Not only do the students as a whole gain by thus coming into contact with him, but the college instructor himself has an opportunity of formulating his opinions on the larger questions of general interest, and thus coming into a feeling of personal and intellectual relationship with others that in his isolated position he sometimes misses. Not only would added dignity and interest be given to a commencement day by such an address, but the person giving it would feel personally a newer and closer connection with the institution whose interests he serves.

A third advantage is that such addresses would form a permanent contribution to educational history. The commencement programme of to-day is ephemeral. Considered as a whole, an enormous amount of time and force is expended on it; and all of this is wasted except in so far as it may prove of some slight benefit to the individuals concerned. The gain would be great could there be substituted for this mushroom growth a body of educational theory and experience that would indicate educational progress already made and suggest avenues of future advance.

It may be said that a college faculty does not always contain a sufficient number of persons able to give a good and worthy address on commencement day on general educational subjects. This may be true, but if so, it is an indication that the faculty of the institution needs to be reorganized.

The address forms naturally the chief feature of commencement day. The remaining exercises, such as music and the conferring of degrees, should correspond in dignity with the address. The question of conferring honorary degrees is one apart from this discussion, but the custom to be inaugurated at Yale of giving no honorary degree without a suitable presentation of the grounds on which it is conferred, cannot be too highly commended.

The principal object of this paper has been not so much to suggest remedies to suit all cases as to call attention to existing abuses and their origin. It must rest with each college to work out an improved order of commencement exercises that shall be worthy of the institution and commensurate with the progress made in other educational lines.

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II

GEOGRAPHY AS A SCHOOL SUBJECT

PROPOSITIONS AND CRITICISMS

The discussion of geography as a school subject has developed in the last few months some interesting phases which have general importance. The Report of the Committee of Ten, and the discussions and printed papers before the Northern Illinois Teachers' Asssociation, are enough to show the mental ferment now going on. The effort to find out what geography is, and to fix its proper relations to the other studies, has resulted first in showing a multitude of close relations to geology, botany, meteorology, physics, astronomy, and to the other natural sciences, as well as to history and literature. A second result, for many, has been almost to destroy the identity of geography as a distinct field of study. The manner in which it overlaps the fields of natural science and history has so confused some of the pedagogues that they are inclined to ignore the boundaries, if there are any, and to treat geography and natural science at least as a single body of knowledge.

When faced with the confusion and uncertainty produced in the minds of teachers by this mixing of what have been regarded heretofore as distinct studies, the advocates of confusion escape from the dilemma by saying: "We are not teaching subjects but children." In this paper I shall make an effort to vindicate a place for geography as a distinct school study, and to show the proper method of treating its relations to other studies.

"Geography is the study of the earth as the home of man." This definition gives the key to geographical study, as distinguished from other studies and as related to them. The study of the earth alone, its phenomena and forces, its vegetation and animals, its rocks and atmosphere, is natural science pure and simple. The study of man in his work and progress, in his struggles and representative deeds, is history. The study of the earth as related to man is geography. Every topic in geography has a double footing in natural science and history. It has two faces—one toward nature and one toward man. This double or complex character is the distinguishing trait of a strictly geographical topic. The moment a topic becomes purely scientific or purely historical it loses its geographical character. Geography is the connecting bridge between the two great real studies, nature and man. A description of the Illinois or Hudson River, for example, is the presentation of a great complex object in nature as related to the industries, travel, homes, and cities of men. The treatment of the city of Duluth as a natural trade center includes not only the railroads and shipping that center there (man's work), but also the surface, climate, and natural resources of the Northwest and the series of lakes and rivers which connect this productive region with the Eastern States and the Atlantic Ocean. The study of Mt. Washington and the White Mountains as a tourists' resort would involve a multitude of nature's works in tree, bird, stone, and brook, and the villages, roads, traditions, mountain engineering, summit-house, and other works of man's brain and hand.

In approaching the field of geography with children, we find ourselves face to face with such a variety and countless multitude of facts that we must at once resort to some principle of selection. Out of this vast conglomerate and miscellaneous mass of facts and phenomena we must select a few. Some facts are secondary or trivial; others are central and wide-reaching in their influence. Some facts are isolated and exceptional; others are typical and illustrative of laws and principles. After deciding what the proper realm of geography is, it is our next duty to select these important type subjects, a full understanding of which will be equivalent to a mastery of the strategic points in a widespread country. If we can take full possession of a line of these commanding fortresses, we shall be able to hold and subdue the whole country at our leisure.

Moreover, with children, these type-studies must be capable of graphic, picturesque treatment. They should be rich in instructive and interesting particulars, not abstract, formal, and barren. Our type studies, therefore, must combine two great merits: they must involve representative ideas of wide-reaching meaning in geography, and they must, at the same time, be concrete, attractive, and realistic.

I shall first inquire whether there are important geographical topics which should be treated from the strictly geographical standpoint and not from the standpoint of any other study, such as botany or history. Many books and teachers do not discriminate closely between geographical topics and those which are strictly scientific (geological, zoölogical, astronomical, etc.). A topic in geography proper is never strictly identical with one in natural science, however they may overlap. In fact, it never centers in the same unit of thought. A geographical topic is, generally, a geographical unit, which involves incidentally a variety of facts from natural science or history. Pike's Peak and vicinity, as a resort, is a mountain neighborhood with a variety of scenic attractions, all centering and culminating in the giant Peak. A description of this mountain resort involves such topics as Manitou and its mineral springs, Cheyenne Cañon, the Garden of the Gods, the Cave of Winds, the foot-trail up to the Peak, the railroad to the top, the timber line and rock-strewn summit, the views of distant mountains and plains, the signal station—in short, works both of nature and of man's ingenuity. A great variety of scientific and historic topics is suggested by such a description, as, for example, the explanation of mineral springs, of air pressure at the base and summit, of the granite bowlders and their origin, of the formation of the cañons, valleys, etc., by erosion, of the vegetation of the different levels, of the first exploration of the Peak, of the engineering difficulties of road-building. Any one of these topics, and several others, might suggest detailed scientific or historical treatment, but the geographical standpoint does not call for a detailed study of any of these topics. We may get a clear, definite, and interesting account of Pike's Peak and vicinity without a technical treatment of any of these topics. But Pike's Peak, as a typical mountain resort and center, is important enough to call for a full descriptive geographical treatment. It will never receive this treatment in any one or in all of the natural sciences, or in history. The standpoint in each science is different, and the geographical unit is never reached. The geographical unit and its treatment would naturally come first in the order of studies, because it is a prominent, easily grasped whole. The adequate treatment of the suggested science topics, as wholes, comes later and will naturally fall to the separate sciences.

The topics which can be treated from a strictly geographical standpoint are large, complex units, each of which involves a variety of scientific and historical facts. Their unity is found not in any one of the sciences, but in the geographical type which this object illustrates. The Hudson River, for example, the full treatment of which also involves a multitude of scientific, historical, commercial, and scenic constituents, is a geographical unit which typifies in its main points the character of many rivers. The description of the important topics in this subject can be made very instructive and interesting without any effort to explain and work out in detail and separately the scientific problems which are suggested by the detailed treatment; for example, the geologic formations along its shores, Hudson's first voyage up the river, the connection with Lake Ontario in the pre-glacial period, the effect of stripping away the forests, the native plants and animals of the Adirondack region. These latter subjects may be very interesting for science lessons, but they cannot be adequately treated in the geography. The purpose of geography is not to ignore them, but to suggest them, and to show how intimate is the relation between them and geography.

To further illustrate the distinctiveness and importance of geographical types, take the treatment of a coal mine as a geographical topic. We may have an extremely interesting and instructive description of the sinking of the shaft, of the ventilation of the mine, of blasting out and hoisting coal, of the dangers from caving in and from explosions, of the transportation by river and railroad, and of the uses of coal in commerce, manufactures, and for heating purposes. We may have such a geographical treatment of a coal mine as this, without any satisfactory discussion of the strictly scientific questions which are sure to be suggested by this study; for example, the origin of coal-beds, the explosion of gases, the steam-engine, the principle of the safety-lamp, the oxygen in the air, the first discovery and use of coal, etc. We may well afford to treat these science topics in parallel lessons in natural science, but it would utterly swamp the geography lesson to branch out into anything like a scientific treatment of these topics. On the other hand, the coal-mine is a legitimate geographical topic which deserves to be handled in this study, because it can never be so handled in any other school study. It has a central, controlling idea, which brings into relation and unity a large complex of facts. It is a type of one of man's chief occupations in subduing the world, and it is closely and vitally related to commerce, structure of the earth, and human welfare generally.

In order to secure and establish the independent right of geography in the sisterhood of studies, it is necessary to make out a series of important type-subjects, in each one of which a characteristic central thought is so distinctly geographical that no other standpoint of natural science or history is able to dislodge the teacher from his geographical stronghold. Now, this is exactly what is claimed for the leading series of type-studies in geography. Each one of them centers in a geographical idea that is a natural stronghold. It is the focus for a variety of objects and facts which find in it as a center their coherency and unity. The Rhine River is such a geographical unit. A California gold-mine is another. The Andes Mountains, Minneapolis, Lake Superior, are others. If we can maintain the right of this series of geographical centers to a distinct place among studies, we shall be able to hold the geographical field against all attacks, even against those who would obliterate the boundaries between geography and natural science.

What, then, is the general scope of those important type-studies which are strictly geographical, and cannot be properly treated in other branches of science? There are several large groups of subjects which are thus characteristically geographical, such as the physical features of the earth's surface (mountains, rivers, plains, etc.); mathematical geography (climate, seasons, motions of the earth, zones, etc.); the occupations of men (agriculture, mining, manufacturing, commerce, trade routes); the institutions of men (government, education, religion, nations, states, cities); the races of men and their distribution; oceanic phenomena (currents, tides); and the natural resources, products, and animals of land and sea. While it is possible thus in a general way to outline the scope of geographical topics, it is difficult to give any exact classification of such topics. Most of the topics in geography are large, complex realities in the world which mingle various elements in a single geographical unit. Thus the Rhine River, as a type, deals with structure, with commerce and cities, with history and political divisions, with architecture and scenery. Nearly every important geographical type thus embodies a great variety of geographical elements and ideas, and renders systematic classifications difficult. And yet nearly every type-study in geography has some striking characteristic. Physical structure is the characteristic of the Rhine, considered as a whole. Irrigation is primarily an agricultural subject, but it has much to do with structure, surface, and climate.

In each year of the school course, from fourth to seventh inclusive, I should suggest the full treatment of twenty or thirty of these type-studies. For the sake of illustration I outline a series of such type-studies for the treatment of Europe in the sixth grade:

1. Trip by steamer from New York to Liverpool. (Commerce, Liverpool steamship lines.)

2. Home and estate of an English country gentleman. (Agriculture, landed gentry.)
3. Manufactures of Manchester. (The ship canal.)
4. Ship-building at Glasgow. (The English navy.)
5. The Thames and shipping at London.
6. The Parliament House, Windsor Castle, and the Tower. (The Government of England.)
7. Oxford and Cambridge.
8. The French people. (Language, history, character.)
9. Paris, the City of Art. (Palaces, churches, museums, parks, bridges.)
10. The silk industry at Lyons.
11. Grape culture. (Bordeaux.)
12. The Rhine. (Scenery, churches, history.)
13. The German army.
14. Out-door life in Germany. (Gardens, music, concerts.)
15. The sugar-beet.
16. The public schools; the University of Berlin.
17. The dikes of Holland.
18. The Alps. (Surface, scenery, lakes, people, tunnels.)
19. Rome. (St. Peter's, the Coliseum.)
20. Genoa and Venice.
21. Vesuvius. (Naples and Pompeii.)
22. The Alhambra at Granada; the Acropolis at Athens.
23. The Mediterranean Sea.
24. The Danube.
25. The four seas of Russia.
26. The Czar.
27. Hammerfest. (Arctic land and people.)
28. The peninsulas of Europe.
29. The Gulf Stream. (Effects on Europe).

After fixing the boundaries of geography and determining the leading topics, the second chief difficulty is met in treating the many intimate relations of geography to other studies. We consider geography and natural science as two distinct branches, and our aim is to point out definitely the close relations between them, not to obscure and to ignore these relations by declaring the studies largely identical. A full and adequate treatment of any one of these important type subjects in geography shows how close and varied are the relations of geography to other studies, such as natural science and history. In describing Niagara Falls, for example, and the river above and below, we may refer to erosion and crumbling of the rocks, to the use of the water-power of the Falls by converting it into electricity, to the geologic history of this region, to the discovery and early exploration by the French. The very fact that a detailed study of such a type suggests so many related topics in other studies is excellent proof that such type studies are in strict harmony with the theory of concentration. But it is one thing to see these relations and to estimate them at their true value, and quite another thing to be carried away by their importance so as to forget the central subject of discussion. Concentration is not provided for by becoming dizzy-headed and confused by reason of the importance and variety of relations between studies.

But the practical teacher is certain to ask the question, "How far shall we follow these relations of geography to natural science, history, etc.?" Just so far as they explain and clear up the central geographical topic with which we started out, without overloading it. We have no right in the midst of a geographical discussion to run across to some scientific topic, and in the treatment of it to lose sight of the original subject. If this were true, we should be equally justified in running on from the natural science topic into history and never returning to our original point of departure. But this would lead to total confusion of studies.

If we have started out to treat Niagara Falls as a geographical topic, let us arrange and present all the facts drawn from different sources which make clear this great natural phenomenon in its important relations to nature and to man. In treating Niagara Falls in geography we have no right to totally lose ourselves in the history of geological formations, in erosion, or in those physical processes by which water-power is converted into electricity. Such a method of treating geographical topics is wholly illogical. It is without center or circumference, and drifts without aim from one subject into another. The centripetal force that holds us to the essential aspects of a central type-study is the only thing that can save us from hopeless drifting.

To treat well such an important type-study in geography requires a teacher who never loses sight of the central object, who can see and trace out the relations of this main topic to other studies without losing his head. He must know the difference between the center and circumference of his subject. He must maintain a sort of judicial balance, which enables him to keep his bearings, to skirmish along the outposts, and yet to keep the center intact. We have been accustomed heretofore to treat topics in any study in such an isolated way, not tracing relations into other studies, that the moment we begin to see and emphasize relations we are in danger of overdoing it. The teacher of the future will need more skill and prudence, more mental balance, so as to keep a just equilibrium between the drawing power of central topics of study and the desire to trace out the intimate and vital relations to other studies.

The third chief difficulty is found in selecting and arranging a proper series of geographical topics for the grades. Two things will need to be kept in mind:

1. The pedagogical sequence of topics in geography itself.
2. The relations of geography to other studies.

These two motives should exert a constant and controlling influence upon the progress of geographical studies through the grades. Geography is sufficiently important to stand, to a certain extent, upon its own feet; to determine in some degree at least the selection and order of its own topics. It contains certain large complex ideas, which can be approached and understood only by a proper sequence of topics within its own domain. All will agree that an experimental knowledge of the home environment in its details of surface, products, occupations, climate, and people, is the necessary basis for a proper advance into the more distant world beyond. But this idea, necessary and fundamental as it is, cannot carry us very far in our geographical movement. Under the name of *field-study* it has been heralded as a sort of substitute for the whole of geography. The study of the natural phenomena about the home can carry us only a short way into the geographical field. It is weak in two directions at once. On the one side it runs far beyond geography into the details of natural science, and on the other side it fails to open up in any clear manner the larger geography of the world-whole. The step from the study of local environment to the grasp of vast and complicated continental masses and limitless stretches of ocean requires something more than a child's own direct experience to mediate.

In this dilemma we turn naturally to globes, maps, pictures of the earth rolling in space, raised maps to show relief, and colored maps and globes to show divisions of land and sea. In brief, we resort to all the graphic devices of mathematical and physical geography, and arouse the constructive imagination of children to project pictures which may approximate the realities of our huge rolling planet. But after all our labor and devices are exhausted, we still feel that the children have a frame without a picture instead of a picture which demands a frame for its setting.

There has been a decided tendency in recent years to emphasize physical geography, especially the study of continental land-masses, relief forms, and the great causal influence that these have exerted upon climate, products, and human history. This has been found, in many cases, to be an extremely interesting study for adults who have lived long enough to collect a large body of facts and experiences which are explained and organized on the basis of these large physical causes.

But a course of study in geography which looks only or chiefly at the physical features, continental land-masses, and other physical phenomena of the earth and air, is very one-sided. Such a curtailment of geographical topics to relief forms amounts to an exclusion of the major part of the rich content of geographical studies (topics). It makes geography a barren subject for children when it might be very fruitful. In fact it becomes necessary, in order to cover up this nakedness, to bring in the whole abundant resources of the natural sciences and to call them geography. The fact of the matter is that children are not very much interested in continental land-masses, nor in the very important functions they serve in explaining climate, products, populations, etc. These are subjects too big for their grasp, and too formal to awaken their interest, except as they come in incidentally. All the sand and clay and other relief maps that can be bought or made cannot relieve the tedium felt by children forever doomed to the study of barren physical features.

The books on physical geography, which are so often cited, were written for adults and have never been read or desired by children. Structural geography has indeed great attractions for adults and for maturer pupils; but to ground the instruction of children upon ideas of physical structure alone is doing violence to their natural instincts. This is too narrow a foundation upon which to rest geographical instruction. Geography is too large and complex a subject to stand on one leg.

Let me not be misunderstood. Physical and mathematical geography are the only basis for an appreciation of the world-whole, and that too in the earlier grades, but the few important central ideas necessary for children can be gotten in a very short time from globes and relief maps, and the major part of study should be devoted to far more concrete and instructive topics, for which the children have a strong interest and predisposition.

The emphasis laid upon the great causal facts explained in physical geography has led to an undue influence of structural ideas in determining the general course of geographical studies. Under this influence a double error has been committed in laying out the common school course. In the first place physical features have been put foremost in primary geography before children are ready for their comprehension, and secondly the direction of mountain ranges has determined the great trend of school progress in geography, instead of historical and commercial ideas. With no desire to detract from the value of structure, I would give history, literature, and commerce a still greater influence in suggesting the order of geographical topics. I have already called attention to the importance of the relation of geography to the other studies in fixing the sequence of topics in geography. I believe that the human interests found expressed in history, biography, commerce, and literature should have a powerful influence in determining the order of our geographical topics after leaving the home. We should all agree, approximately, that it is well to study the geography of North America in detail before taking up a similar detail of other continents. But when we are done with North America, shall we proceed to South America or to Europe? A full and fair statement of this controversy will reveal clearly the relative value of structure and history in deciding our course.

It has been customary in the geographies and in the schools to pass from North America to South America. The reasons for taking South America first may be stated as follows: It is a part of America, and we are Americans. Its main mountain chains are in the same direction and a part of the same system as our Rockies. The general physical structure of South America is very similar to North America. South America is also very simple in its structure as compared with Europe or Asia. We also have considerable commerce with South America in coffee, tropical woods, leather, wool, and quinine, and we export flour, machinery, etc., to the South.

The reasons for passing directly to Europe upon leaving North America may also be stated. Europe is our old home, and the great tide of our history and development has been along lines of latitude from east to west. Our people are from England, Ireland, Norway, Germany, France, Italy, etc. Our great steamship lines connect us with Europe, and our imports and exports are chiefly with Liverpool, Hamburg, Paris, etc. In Europe they speak the same languages as our own citizens—English, Irish, German, etc., and if we travel to foreign lands we go to England or France. Their climate is also like ours, with the same seasons; while in South America it is either tropical or the seasons are inverted and the vegetation largely different from ours. In laying out our course of study in history in the fourth and fifth grades, we have taken up in detail the lives of Columbus, Magellan, Raleigh, Hudson, and John Smith, and of necessity have had much to do with the geography of the leading European countries and of the Atlantic Ocean. In the study of Colonial history in the sixth grade we remain in very close political, social, and commercial relation to the mother countries. Again, in the literature that we have studied with so much delight, in the third, fourth, and fifth grades we have spent much time in European lands, *e. g.*, with Ulysses and the heroes of the Trojan war; with Perseus, Theseus, Hercules, and Horatius in the Greek myths, and in the *Lays of Ancient Rome.* In the stories of Alfred, Bruce, and Tell we have made a somewhat close acquaintance with several European countries, and have acquired an intense interest in certain localities. Not only have we or our ancestors come from Europe, but our ideas of religion, politics, social life, and literature are of European birth, and even the body of ideas already gathered by a fifth-grade child is so much tangled up with the history and literature and geography of Europe as to have a strong European complexion. When we come to realize what a central position history and literature are gradually taking up in our school course, and what a large contingent of knowledge the literature and history of Europe are already contributing to all the early grades of our common school; when we stop to think that the great purpose of the school, in one sense, is to put the child into appreciative possession of the culture riches of the race as they have come down to us, we shall see that Europe has given us everything and South America next to nothing. Why should we go shying off to South America when all the lines of interest draw us strongly toward Europe? Europe is the center from which all modern geographical movements have sprung. All the great voyages of exploration started from Europe. All the colonial conquests and colonizations have been made by European nations in all parts of the world. The great routes of traffic to-day by land and sea converge toward Europe. Why should we not strike for this center, and from this historical, commercial, and structural vantage ground run our courses out into the Orient and into the South? It is not our intention to neglect physical structure and the great causal influences that have sprung from this source, but to bring them out more clearly in connection with history and commerce.

There is probably no better way to picture out and realize the great barriers of mountain chain or ocean which Nature has set in man's pathway than to trace out the difficulties and hardships with which man has tried to surmount those barriers. A detailed account of Columbus' first voyage across the Atlantic is a better lesson on the geography of the Atlantic Ocean than any geographer ever dreamed of putting into his book. The description of Frémont's successful but hazardous effort to cross the Sierra Nevada in winter, gives stronger and clearer notions of that mountainous region than any or all the geographies. These statements are true of all the explorers and pioneers on land and sea. Through all the ages men have been battling and struggling with their physical environment. From the days of Jason and Ulysses to those of Boone and Frémont and Livingstone, the efforts of daring spirits to conquer physical obstacles have given the people their clearest ideas of what this great world is made of. Much of the very best biographical and literary materials that we are using in third, fourth, and fifth grades brings us into close and cherished companionship with these pioneer heroes whose business it was to subdue continents and seas. Now it seems strange and inconsistent that those who insist so strenuously upon getting the child into the open field, and on his coming in contact with the forms, forces, and phenomena of the physical world, should forget that the children of men have been in this open field, have been contending hand to hand with these elements, subduing and being subdued for some thousands of years. Moreover, the history of man's labor, hardship, and struggle in discovering, exploring, subduing, and civilizing our country and other lands is just what we are studying with great interest in intermediate and grammar grades parallel with the geography. But the advocates of field-study allow history to play almost no part in the selection and arrangement of geographical topics. They follow alone the physical structure of the great continental masses, mountain chains, etc., which have to do only incidentally with the trends of history, commerce, and human interest.

The general movement in geographical studies, according to this plan, would be as follows:

Home geography in the third grade, with excursions and field-work. The movement from here on would be from home outward into the great earth, keeping the whole world in view on globes and maps.

Fourth grade—Twenty topics on the Mississippi Valley.

For New England children, I should begin with New England and the Atlantic seaboard.

Fifth grade—Twenty-five topics along the east and west slopes of the United States, including the mountains. Also Canada and Mexico, and the grasp of North America as a whole.

Sixth grade—The geography of Europe in the twenty-nine topics already outlined,

Seventh grade—Twenty-five type-studies for Asia, Africa, Australia, South America, the oceans, and the world-whole.

Such a plan as this follows historical and commercial lines without any neglect of physical features and their influence. It brings the history, literature, and geography of America and Europe into so many great and closely related series. It does not repeat the same geographical names and places from year to year, but marches steadily forward to new fields of conquest. It should be remarked that the type-studies alone do not include the whole of such a treatment of geography. They furnish, indeed, a wide field for comparison and extension of important ideas, and they trace the causal roots of geography deep into the other sciences. But they should properly occupy only about half or two-thirds of the time allotted to geographical studies. The making and interpretation of maps, the reference of important topics not specially studied to similar types in countries already treated, the drill exercises and tests, the reviews for fixing things firmly in memory, are all necessary.

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Other important articles on various phases of Geography have appeared in the Educational Review as follows:

The teaching of geography, by Professor William M. Davis (May and June, 1892); Geography in the European universities, by Hugh R. Mill (December, 1893); The status of geography teaching, by J. W. Redway (January, 1894); Applications of physiography to history, by J. W. Redway (November, 1894).

III

CORRELATION OF SCIENCE AND HISTORY

The rapid growth of popular interest in the common schools is the most hopeful sign of the times. The swelling sympathy of the people with their own institution, the schools, is bearing fruit in a most determined effort to bring the lives of the children into closer accord with the natural functions of mortal existence. Immoderate haste to attain the end, without due regard to natural means, has resulted in a congested curriculum that is at once the weariness of childhood and the despair of teachers. But the public has spoken, and the teacher, its servant, has nought to do but obey; it is left for him to devise a rational means of reconciliation between the legitimate demands of practical life and the inherent possibilities of youth.

Not stopping to discuss, or even to mention, the various plans of procedure that have been proposed, it is assumed that the most reasonable, and the ultimate way out of the difficulties engendered by an overcrowded course will be through a proper correlation of studies. This proposition, in its statement, is exceedingly simple; in its application, extremely difficult. True correlation is not accomplished when studies, through chance or superficial relations, are brought into fortuitous arrangement. It is not a game that can be won by the throwing of dice, but it is a definite problem, that is capable of rational solution only through a keen insight into the laws of growth and a correct application of the principles which underlie education.

In any proposed scheme of correlation, it is evident that a proper evaluation and a natural classification of studies must have an important place. It has not yet been settled, in the minds of many, to what extent the operation of the natural laws under which the mind develops must yield to the present exigencies and varying demands of an evolving civilization.

It is true, the fate of the great cities now rotting in corruption and the physical vigor of the race depend upon what the schools shall teach to the children. But it is equally true that the highest civilization must be what normally developed individuals can make it. The laws of growth may be differently applied; they cannot be ignored. Sympathy, therefore, is likely to be on the empirical side of the question, but safety will be found on the rational side. From the standpoint of the latter, the whole of human growth presents itself in the two aspects of thought and action. The first results from the individual coming within reach of the influences of his environment; the second is produced by his reaction upon those influences and against them. Upon this conception of development rests the classification of subjects into thought-studies and form-studies. The first includes all those that spring from the environment; the second includes those by means of which the individual reacts upon his environment. Thought-studies deal with the substance, the subject matter, of the course; form-studies deal with the modes of expression and judgment.

This classification of studies reduces the question of correlation to the simple problem of preserving the natural balance or relation between these two complemental aspects of growth—thought and expression.

Science and history, with their numerous subdivisions, constitute the thought-studies of the curriculum. They embody all the influences which affect the human being. Before the correlation which the inherent relationship of the two subjects renders possible can take place, it is necessary to examine the part that each plays in the development of the individual. The end of all education, the purpose of every factor in education, is to develop character. Character is the result of the realization of motive through intelligence. Intelligence without motive lacks force; motive without intelligence lacks discrimination. Through its intellectual function, the mind discerns the law; through its moral function man is impelled to obedience. The highest character, therefore, belongs to him who most clearly determines the law by a study of the mutual relations of the elements of his environment, near and remote, past and present, and who then most implicitly submits himself to the operation of that law in the face of tradition, custom, and opinion.

In almost all attempts at the correlation of science and history, a fundamental mistake has been made in trying to relate the one, science, chiefly to the intellectual function of the mind and the other, history, to the moral function. It is here submitted that one of the two absolutely essential conditions upon which correlation must rest is the admission that science, as well as history, reaches back into the moral relations of the individual. The conception of the mind as an *aggregation of parts*, independent in development and action, must yield to the conception of the *essential unity* of mind, whose wholeness is strictly preserved in growth and function. Nature study was admitted on the condition that it would assume the function of sense training. But the senses refused to even respond without the full co-operation of the judgment and imagination. And to-day the study still languishes; it hangs between life and death; the spontaneously awakened interest has to be prolonged by absurd and factitious means, simply because teachers, blinded by tradition, still are possessed of the notion that it does not reach the moral nature. If the minds of teachers are not cleared up on this point, total failure will be the inevitable result. The mind, even of childhood, instinctively rejects that which does not engage it as a whole and promise an immediate result that fastens itself upon character.

That the proper study of science must reach the moral nature, might safely be permitted to rest upon the axiom that the study of truth is necessarily moral; but the proposition is capable of sound demonstration. Human character sustains itself through two functions; first, in ascertaining the exact place of the individual in the scheme of creation; and, secondly, in maintaining that place. The sphere of the individual is ascertained through a study of the innumerable relations which exist between himself and all other created things; it is maintained through a knowledge of the law which determines the relations and by strict obedience to it. These laws have not been revealed to man wholly through a study of his relations to his fellows. Even the fundamental axiom of democracy, "All men are created free and equal," was not so derived. The crime of slavery found its sanction on every page of history; but the fowls of the air, the beasts of the field, and all creeping things preached freedom, and the gospel of these humble ministers of everlasting truth has finally prevailed. History abundantly proves that the standards of morality have been established, and constantly corrected and elevated, by direct appeals to nature.

The second of the two essential conditions upon which correlation can take place, alluded to above, is that all the events of history must be taken from the province of special dispensation and be considered within the domain of natural law. Mankind as a whole has never accepted the doctrine of chance. Time has been, however, when every phenomenon and every occurrence was referred to the special providence of God or the gods. Respecting a large number of events, this belief is still widespread; especially is this true of human events. The belief is common, yet, that those natural phenomena that seem to bear most immediately upon human welfare, such as floods, droughts, storms, etc., are the result of an edict of the Almighty "good for this day only."

Those, however, who have received a scientific education within the past quarter of a century will, perhaps without exception, refer all such occurrences to the operation of natural laws that are constant and immutable. But concerning the events of human history, a corresponding belief is by no means universal. The majority of people at this time interpret them under the conception of special providence rather than under that of natural law. It is under the former conception that nearly the whole of history has been written, which renders rational interpretation especially difficult. People who would, perhaps, hesitate to ask for a suspension of the law of gravitation have little hesitation in seeking for providential interference in personal or national affairs which are actually in the grip of a natural law no less inexorable. This curious condition has arisen from the anthropocentric idea that has filled the mind of man from the dawn of conscious life. Throughout the centuries, this is the one dogma that remained undisturbed. Even in the mighty Copernican revolution, in which the sun and earth exchanged places in man's conception of the universe, his opinion of himself was unassailed. Not until light was flashed upon the subject by the immortal genius of Darwin, did man learn his true relations to all other created things. Not until our own time was it believed that man is entirely within the sweep of universal law.

This concession on the part of history will be clearly in line with the tendency in modern education to reduce *all study* to the study of natural law. It is the suggestion of law that gives intelligent direction to thought, and the common attempt of all study to find law back of all phenomena will make correlation of subjects and concentration in study possible and practically desirable. Biology, for example, then becomes a study of the natural law that underlies and determines the regular phenomena of organic matter. History becomes the investigation of the natural law, and its application, which determined the civic and social conditions of man in times long past. The motive for both is that man may more clearly understand the present and more intelligently forecast the future. This conception places upon intelligent study the highest premium ever offered. To know the law will be the highest wisdom; to contemplate the Law-Giver will inspire the highest reverence. The conception also implies the supremest beneficence; for natural law completely emancipates man from the chaos of chance and the cruelty of whim, and, through their knowledge of it, all alike may find security in the present and promise in the future. With the growth of this idea in the mind will come the full meaning of "Wisdom is the principal thing; therefore get wisdom." When science and history find their inherent kinship through their mutual relations to character and a common allegiance to natural law, a sound basis for correlation will be established.

In realizing a scheme of study involving the correlation of science and history, teachers of the latter, as well as the former, must avail themselves of the personal experiences of the children. The pupil's relations to his own community life are the basis for history, as his relations to his immediate physical environment are the basis for science. No correlation of the two subjects is possible if in science the children are to live in the present and in history they are to dwell in the past. *Immediate life for immediate purposes* must be the maxim for both. Under any other conception, pupils instinctively feel that school work is a hoax. Civics is the beginning, not the end of the course. History has no function but to make present existence more tolerable; yet this effect is but feebly felt in the practical affairs of life. Teachers have droned away the time of untold generations over the lessons of Egypt, Greece, Rome, and Palestine, and still the question of self-government is an unsolved and a doubtful problem.

Human development is dependent upon thought and action which have a common source in *present conditions.* It is not the function of history to create thought, but to vivify it; it is not its function to originate action, but to direct it. The child in the Kindergarten is moved by those feelings which have lifted the race to higher levels, and he is swayed by the spirit that has laid nations in the dust. Within himself, with advancing years, he may read, by the light of history, the causes of national growth and decay. These personal impulses, freighted with destiny, are the essential basis of historical study; better to show the pupil what they mean to himself, to the school, to society, to the nation, to humanity, enriching and vivifying them with all the historic wealth which the centuries afford, than to permit them, like dragon's teeth, to be buried to sprout destruction, while, blind to the dread harvest, the teacher rests content with pages learned. In history, not less than in manual training, instruction is impossible without action. Pupils, to be good, must do good—immediate, genuine good. With the enlistment of self in action, come personal courage and strength; without it, come craven abasement before authority and the capitulation of reason to superstition.

If the lives of children are to draw freely upon the treasures of the past, history must not be handcuffed to the chain of chronology. Teachers in history are still enslaved, as once were science teachers, to the *logic* of the subject. The logic of history dealing with events in their causal relations, constructs and requires a long perspective in time. But in the support of virtue and in the rebuke of vice, the lessons of history are absolutely independent of time. Freed from chronology, the near and the remote may become equally potent in the life of the child.

When science and history are both fitted to the needs of developing youth, their place and time in a course of study can then be rationally determined. There is not a programme now in existence where the allotment to these subjects does not represent a concession to the ambition of the teacher in charge. As a result, the courses of study in different schools resemble each other as little as though timed to the needs of children on different planets. In selecting historic materials, the theory is now generally accepted that the individual passes through stages of growth which correspond to successive epochs in race development. The idea presents an interesting analogue to the biological fact that, during prenatal life, the embryo passes regularly through stages of structure that correspond to adult forms of lower animals. Upon this theory, childhood has, at last, been admitted to the great wealth of fable and fairy lore, that beautiful exhaustless treasury of the thoughts and feelings of an infant race. Without doubt there is a genuine union of the scientific and poetic in the marvelous sympathy which the child's life finds with those childish interpretations of a strange world's mysteries. But just as the embryo rapidly assumes and discards the semblance of lower forms and very early adopts the distinctively *human* character, so, *if proper conditions are presented*, the child, more swiftly than is generally supposed, traverses the domain of the fairies and emerges with intense, expectant vigor into the confines of the present. To ignore these materials of fancy has been the great fault of the past; to permit them to shut the child out from the present must not be the fault of the future. Unfortunately, the inherent buoyancy of childhood makes it easily possible for the teacher by purely factitious means to chain the child to another age and make him forget his own.

In the correlation of science and literature, a distinction must be observed between the historic and the philosophic or scientific value of the latter. History enters the course as an array of events, but literature comes as a vehicle of beliefs. These have received an emotional expression, the intensity and vehemence of which, alone, strongly prejudice toward conviction. The voice of the past, through its literature fraught with the feelings of those of cherished memory, awakens an echo in childhood, and profoundly subdues and chastens the whole life of man. In this, it performs its legitimate function. But the early conceptions of man regarding his origin, his destiny, his relations to his fellows, and to nature, can by no stretch of imagination be brought into accord with those of this day. The attempt to do so must end in confusion. The conceptions of the present concerning the fundamental problems of life are clearer and broader than ever before, and their place in education must not be usurped by those long ago outgrown.

From earliest times, man has occasionally lost himself in the contemplation of nature. He has forgotten the frettings, the struggles and prejudices of life in his feelings of nearness and kinship to the beauties and mysteries around him. In these moods his spirit has shone out with expression that enters the understanding and receives the sanction of all mankind. It is in such literature, produced in every age, as Shelley's *Cloud* or Tennyson's *Brook* that science and literature find a true correlation in the soul of man.

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IV

THE HIGH-SCHOOL PERIOD

In a report of the Committee on Secondary Education, made to the National Council of Education at Toronto, in 1891, one member of the committee presented the following: "My opinion is that it would be much better for our boys and girls to begin their preparation for college at least two years earlier than they now do. If our high schools could receive the pupils at eleven or twelve, instead of fourteen, the preparation for college would be completed at sixteen instead of eighteen, as is now generally the case." This opinion is given by one of the oldest and most successful high-school principals in the country, Mr. Coy, of the Hughes High School, Cincinnati. The Boston Latin School, which admits pupils earlier than most high schools, and a few other high schools and academies in the United States are organized on a similar plan.

The custom in European countries supports the view that the high-school period with its methods should begin earlier than in most of our schools. Prussia shows us a system in which but three years of elementary work precede the Gymnasium, and the pupil can enter it at the age of nine. The Gymnasium itself covers a period of nine years, extending five years below the period of our high schools, and the pupil reaches a higher standard at the age of eighteen than that which is attained in our country. In fact the Gymnasium in its higher grades covers a considerable part of our collegiate work.

These facts have aroused more or less discussion in America, and we find advocates of extending the high-school period below or above or in both directions.

If the high schools should be made equivalent in length and rank to the Prussian Gymnasium, the change would involve the entire reconstruction of our school system, from the primary school to the end of the university. The high-schools would become colleges, and the colleges would become high-schools, and the graduates from them would enter the university prepared to take up professional or other special university work. That there are many leading educators who advocate these changes for the universities is well known, and there are some strong tendencies toward the German system.

On the other hand, many deplore the possibility of losing the American college, which is an institution somewhat peculiar to this country. They think that its broad, general education and superior culture are worth retaining, and that specialization should begin at a late period.

One significant fact stares us in the face, and that is that the average American boy no longer will spend four years beyond the high school in general education and then pass four years more at the professional school or three years in the graduate course. Somewhere the work must be shortened, in either the elementary school, the high school, or the college. The present tendency of the leading universities is to begin specialization at about the end of the sophomore year, and a new plan which is likely to secure adoption is to make the senior year count both toward the bachelor's degree and toward professional work, as that of the law school. The disgracefully low standard of many of the professional schools makes it almost imperative to shorten the period of preparatory and college work so that students may be induced to take a college degree before entering upon special education.

The doctrine that the elementary courses should be shortened and enriched, which at first met so much opposition, is now received with growing favor.

All these things point toward important modifications of our system of education. I am not presenting any new scheme, or advocating emphatically any old one. But

I wish to write briefly upon the subject of the high-school period, and to present the nature of the problem, as it appears to me, for discussion. Before calling for change we should analyze the problem, then invite the opinion of special workers, and finally experiment. It was quite generally agreed in the Committee of Ten that their task would be less difficult did the high-school period begin, say, two years earlier; and the reason why the recommendation of the Conferences that certain studies be introduced below the high school was viewed with suspicion, was the impossibility, with the present organization of the schools, of securing good instruction in these studies.

I am convinced that the recommendations to begin the following subjects before the present high-school period will prevail: English literature, German or French, elementary algebra and concrete geometry, natural phenomena, natural history, biography and mythology, Greek and Roman history and civil government, physical geography.

The cry now is, crowded courses! No room for more studies! Ideal notions of impractical men! College men theorizing about elementary education! etc. But many school superintendents in the country are already quietly trying the experiment with each of these studies. If there is no room for the elements of subjects that, by any psychological analysis, nature must begin before the school period, and which kindergartens already properly use, then so much the worse for the elementary courses, as at present organized.

Examining the course of the Prussian Gymnasium, which is entered approximately at the age of nine, we find, in the first five years, or before the age of fourteen, Latin, Greek, French, history, geometry, natural history; and I believe it is generally conceded by educators that far more is attained by the age of eighteen in Germany than in this country; that at the age of fourteen in Germany the development of the pupil is more mature, and that in essential features of education he has made more desirable progress.

If Hill's *True order of studies*, in which the field of knowledge is carefully analyzed in its relation to the child's growth, is to be accepted, then we must believe that we are in serious error if we do not put in practice all the recommendations of the Conferences to which I have referred. Space relations belong to the dawn of consciousness; at an early period the objects and phenomena of our environment are discriminated. History and literature in appropriate forms appeal to every child. Nature begins these studies with the child before the school period; why should we postpone them until the high school is reached?

We now approach the difficult part of our problem, namely, the ways and means. Inadequate preparation of teachers makes impossible the introduction of these subjects in all the grammar schools; and most of the failures of experiments made are due to the mechanical attempts of those who have no intimate acquaintance with the subjects. The present system of requiring one teacher to cover the whole field of knowledge in grammar grades forbids much improvement.

Shall special teachers be employed for the different subjects and go from room to room? Shall special instructors of the regular teachers be added? Shall two years or more of the grammar school be thrown into the high school? Shall branch high schools with skilled teachers be organized, reaching down into the grammar grades? Shall the whole work of elementary education be reorganized to produce better results at younger age? That some of these methods of solution will be sought, I believe. While I have long seen the bearing of the problem, I have not made it a special interest and study. The methods of the few schools that are organized on the five or six year plan should be learned, and the opinions of educators should be sought, and the subject should be made one of serious investigation. I know that all over the country there is criticism of the connection between grammar schools and the high schools. Grammar-school teachers speak of the hardships of their pupils when entering the high schools; high-school teachers complain of the lack of efficient training in the grammar schools, especially in mathematics, in English, and in science. The power to observe and reason is especially lacking, and this is obtained by the scientific method applied to the studies in the list recommended. I am almost certain that the difficulty in passing from the grammar to the high school would disappear were the scientific method skillfully introduced into the grades. The child, at an early age, employs implicit reasoning, both inductive and deductive, and it is only the lack of training that leaves the power dwarfed at the age of fourteen.

A recent magazine article strongly emphasizes the methods that make power. It considers the kind of training that finally makes accurate thinkers, that makes original progressive men, men of power and safe and wise members of society and citizens of the state. The author shows that clear observation, accurate recording of facts, just inference, and strong, choice expression, are most important ends to be attained by the work of the schools, and that these ends become the means for correcting all sorts of unjust, illogical conclusions as to politics and morals. The author shows wherein the work of the grades fails to give the desired results. He holds that arithmetic, so emphasized, contributes nothing because it employs necessary reasoning and does not give practice in inference from observation and experience, a process which develops scientific judgment. Inductive reasoning alone can give scientific power. Reading, writing, spelling, geography, as usually taught, contribute but little. Grammar does not add much.

For invention, for correct estimates of the problems of society, government, and morals, the original power of inference from observed facts is necessary. It is asked, Do our schools give this power to a satisfactory and attainable degree?

An examination of the Conference reports to the Committee of Ten discovers some views that have an indirect bearing upon the subject of this paper. The Latin Conference hopes for a modification of the grammar-school courses that the high-school course may be begun earlier. The Greek Conference voted that the average age at which pupils enter college should be lowered. The Conference on English was of the opinion that it was expedient that English work during the last two years of the grammar-school course should be in the hands of a special teacher or teachers. The Conference on Modern Languages holds that whenever competent teachers can be secured the grammar schools should have an elective course in French or German. The Physics Conference recommended "That, wherever it is possible, special science teachers or superintendents should be appointed to instruct teachers of elementary schools in methods of teaching natural phenomena." The History Conference thought it desirable that in all schools history should be taught by teachers who have a fondness for historical studies and have paid special attention to effective methods of imparting instruction. One member of the Conference was almost ready to advise omitting history from school programmes because of so much rote text-book teaching.

These opinions are additional evidences of need of modifications in grammar-school work, and it is possible that ultimately the best solution will be found in extending the high-school period downward to include part of the elementary period, that specially equipped teachers may have charge of the several departments of work.

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V

RECENT TEXT-BOOKS ON FICTION[1]

During the many recent attempts to separate the study of literature from the study of linguistics, and to consider literature itself artistically rather than scientifically, an increasing attention has been paid to American literature and to the British literature of the nineteenth century. Here in these two subjects is matter which the student can readily assimilate, and in the treatment of which it is possible for the professor often to excite in him the first germs of that "taste for reading" that only too many of our college graduates are wholly without. For the instructor who wishes to arouse young men to some understanding of the underlying principles of literature, a course in modern fiction may be made even more stimulant than the two courses already mentioned. The evolution of the narrative art, from the *Gesta Romanorum* down to the writings of Mr. Howells and Mr. Kipling, its modification by the practitioners who followed the Rabelaisian tradition on the one hand and the Cervantine on the other, its increasing complexity, as the puppets *in vacuo* of Boccaccio were followed after many years by the full-blooded characters of Turgenef seen against a background of real life—all these things can be made interesting to the student, who soon finds himself reading the ordinary fiction of the day with some appreciation of its merits and with some understanding of the school to which it belongs.

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[1] *Le Roman en France depuis* 1610 *jusqu'à nos jours:* Lectures et Esquisses. Par Paul Morillot, professeur de littérature française à la faculté de Grenoble. Paris: G. Masson.; New York: Dyrsen & Pfeiffer, 1894, 611 p. 5 francs. *The English novel*, being a short sketch of its history from the earliest times to the appearance of *Waverley*. By Walter Raleigh, Professor of Modern Literature at University College, Liverpool. London: John Murray; New York: Charles Scribner's Sons. (University Extension Manuals.) 1894, 298 p. $1.00. *An introduction to the study of English fiction.* By William Edward Simonds, Professor of English Literature, Knox College. Boston: D. C. Heath & Co.; 1894, 240 p. $1.00.

Unfortunately there is no single book which will serve not necessarily as a text-book—in a course of this sort, when the pupils read the authors for themselves, a text-book is almost an impertinence—there is no book to serve as a work of reference even. Dunlap's *History of Fiction* is hopelessly out of date, even in the late revised edition; and the most of the books about the novel err in considering it only in a single language. Now, if anything is clear in the history of fiction, it is that there has been incessant international borrowing; the principles and the practice of a Spanish author influencing an author in France, who, in turn, may have modified the native manner of an author in England. Mr. Henry James studied his art under Turgenef, and M. Paul Bourget obviously modelled his earlier novels on those of Mr. Henry James. Again, Mr. Rudyard Kipling was a disciple of Mr. Bret Harte, who was a follower of Dickens, who avowedly copied the methods of Smollett, who confessed his imitation of Le Sage, who borrowed the form of the Spanish picaresque tales, which in turn may or may not have been derived, in some measure, from the Greek romances.

Of the four books before me, three of them are good in their several ways and in their several degrees. M. Morillot's is a discussion of the novel in France, and Mr. Raleigh's of the novel in England, while Mr. Simonds, devoting himself chiefly to the English novel, rashly wanders off now and again into a consideration of the great writers of other languages. Of the three books Mr. Simonds's is the least satisfactory. He has no firm grasp on the principles of fiction; he does not seem to be able to follow the steps of its steady progress; he is lacking in the sense of proportion, or he would not be so absurdly inadequate in his treatment of Hawthorne, who is actually introduced and dismissed in the same paragraph with Bulwer Lytton. Mr. Simonds fails altogether to understand the position of contemporary American fiction. Nowhere does he record the extraordinary skill with which almost every locality in the United States has been translated into literature. Nowhere does he praise the vigor with which American character has been presented by the best of our later writers of fiction. His attitude is often colonial in its deference to the opinion of British critics; and it is through the spectacles of British critics that Mr. Simonds sees not only the American novelists but the French as well. The whole chapter on the "tendencies of to-day" is ill-digested and inadequate, sometimes it is even misleading.

Mr. Simonds fills more than half of his volume with selected passages, specimens of narration from *Beowulf* to *Tristram Shandy*. M. Morillot also gives up a great many of his pages to selections, more carefully made than Mr. Simonds's, and far ampler and more representative than those in the American book. But I doubt the advantage of a volume of selections from fiction. Specimen bricks cannot even suggest elaborate structure. Condensation is possible and often advisable; but mere excerpting is of doubtful utility. Sometimes, as Professor Morley declared, the half is greater than the whole; and probably it is better that the student should read the *Decameron* and *Gargantua* in the compact volumes of the Universal Library than in complete editions. Extracts draw attention rather to the mere writing of the novelist, to his style chiefly, and they are of little or no help to us in any endeavor to grasp the primary conception of a novel, to disengage the skeleton of the story, to see how skillfully it is articulated, and to decide for ourselves whether or not the work has the supreme grace of form. So rare is real symmetry of construction in British fiction, that Mr. Simonds, for example, cannot understand why Mr. Henry James should find the Joyeuse episodes of the *Nabob* excrescences.

M. Morillot's selections seem to be well made, and the brief notices with which he introduces them are intelligent and to the point. Especially to be commended is his cordiality to Mme. de Lafayette, whose *Princess of Cleves* was as far in advance of its time as was the best of Miss Austen's equally feminine and equally introspective fictions. His treatment of Alexandre Dumas will not satisfy the neo-romanticists, who hail the author of the *Three Musketeers* as one of the great masters of fiction; but it is quite in accord with the consensus of critical opinion in France to-day. His assertion that the moral significance of Octave Feuillet's novels is "very virile and very pure" is probably also in agreement with contemporary judgment in France; but it will seem unfounded to many of us, who believe nearly all of Feuillet's hectic tales of fashionable life to be profoundly false, and therefore to be radically immoral.

Perhaps Mr. Raleigh's is the best of the four books before me. The favorable impression it makes on the interested reader is due partly, it may be, to the fact that it contains no extracts to interrupt the current of the author's criticism. Mr. Raleigh considers first the origins of the English novel; and then he discusses at length the Elizabethan romances, devoting himself chiefly, I am sorry to say, to their style, and not giving sufficient attention to the underlying stories themselves, almost overwhelmed out of sight by the overflow of rhetoric. (Nowhere, so far as I know, has the actual art of narration among the Elizabethans been adequately considered except in an essay by Mr. R. A. Ashworth in a recent number of the *Sewanee Review*.) Mr. Raleigh, while confining himself to the development of the novel in England, follows carefully its expansion in France, and is ready always to point out the influences exerted across the Channel. He also shows what a service was rendered to the art of fiction by the improvement of the art of character-drawing, consequent on the starting of the *Tatler*, the *Spectator*, and their imitators. He conducts the history of English fiction only to the advent of Scott; and it is to be hoped that he will be encouraged to carry it forward at least to the death of Thackeray.

Excellent as Mr. Raleigh's book is, with its criticism at once solid and brilliant; with its subordination of mere biographical and bibliographical detail to the more important work of tracing the development of the art itself; with its many merits, not the least of which is its readableness; excellent as it is altogether, it still leaves room for a book about the modern novel which should not confine itself to a single language, but which should show, by a judicious selection of the salient stories of all the nations of Europe, where the novel of to-day got its complexity. The time has come for a history of modern fiction in which shall be set forth the successive steps of the story-tellers who narrated at the first things quite impossible; and then things only improbable—in which stage the romanticists still linger even in this last decade of the nineteenth century, when riper artists have already tried to pass from the description of the merely probable to a depicting of the absolutely inevitable. These indeed are the four stages of the subject matter of fiction—the Impossible (which pleases children of all ages), the Improbable, the Probable, and the Inevitable (which pleases only those who are willing to look at life as it is and without prejudice). The historian of fiction will need self-control if he wishes to declare with precision the merits and the demerits of the masterpieces in each of these four classes.

Neither the future historian of fiction, nor the present instructor who is trying to trace the manifold developments of the art of story-telling as it is to-day, will be greatly helped by a very curious little book recently edited by Mr. Richard G. Moulton.[2] It appears that in a group of mining villages in Northumberland near the German Ocean the so-called University Extension movement led to the formation of a society for the study of classical fiction, one novel being read every two months by every member, after an expert had drawn up a list of points to which the attention of readers was specially to be directed. Upon one or more of these points papers were written, and upon others a debate was held. Obviously a scheme like this, well carried out, would do much to enliven village circles, and might even aid in increasing the readers' understanding of human nature. But the experts who choose the books and who draw up the lists of points to be considered, debated, and written about, must needs be men of unusual equipment and insight, or else we shall see the blind leading the blind.

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[2] *Four Years of Novel Reading:* an account of an experiment in popularizing the study of fiction. Edited by Richard G. Moulton, M. A., Ph. D. Professor of Literature in English in the University of Chicago. Boston: D. C Heath & Co. 104 p. 50 cents.

The list of the twenty-five novels read by these Northumberland villagers does not inspire confidence in the wisdom of their experts. The object of the course was avowedly to read classical novels—and it included one tale by Mr. Robert Buchanan! The other twenty-four novels were four of them by Dickens, three by Scott, two by Thackeray, by George Eliot, by Charles Kingsley, and by Charles Reade, and one each by Mr. George Meredith, Mr. R. D. Blackmore, Mrs. Gaskell, Miss Brontë, Miss Austen, Dr. Holmes, Victor Hugo, Dumas, and Eugene Sue—surely as odd a selection of "classical novels" as could be made. They are most inexpert experts who are capable of including Mr. Robert Buchanan and Charles Reade and Eugene Sue in a list of authors of "classical novels" while excluding Cooper and Hawthorne, Balzac and George Sand, Turgenef and Tolstoi. And some of the comments are quite worthy of the selections. The editor calls *Monte Cristo* "a masterpiece of the French school" and "a consummate piece of literary workmanship from beginning to end." Mr. W. E. Norris (himself a novelist) tells us that to have discovered something about the methods by which Tito in *Romola* "has been made to stand on his feet is, no doubt, to have discovered something about the technical side of light literature":—it is indeed a discovery to find that any man able to read and write is capable of classifying as "light literature" the acute and subtle study of the processes of Tito's steady moral disintegration under recurring temptation.

Although other British novelists—Mr. Justin McCarthy, Mr. J. H. Shorthouse, Mr. S. J. Weyman—are also among the experts, scarcely once is attention called to the merits of the story as a story, or to the principles of the art of narrative. So slight is the sense of form among British writers of fiction that no notice is taken of the bifurcation of the plot of *Vanity*

Fair, or of the sprawling end of *Monte Cristo*, or of the beautiful simplicity of structure of *Silas Marner*—a simplicity not to be seen in any other of George Eliot's novels. In the suggestions of the experts, as in the introduction of the editor, stress is laid chiefly on moral questions. It is charitable to assume that it is a careless proofreader who has allowed Mr. Moulton the ungrammatical assertion that "what betting or euchre are to the men's club, that novels are to the ladies' boudoir" (p. 7).

BRANDER MATTHEWS

COLUMBIA COLLEGE

Other contributions by Professor Brander Matthews to the EDUCATIONAL REVIEW have been:

Can English Literature be taught? (April, 1892); Corson's *Primer of English verse* (September, 1892); Brewer's *Orthometry* (September, 1893); Renton's *Outlines of English literature* (October, 1893); Eaton's *College requirements in English* (April, 1895).

VI

IS OXFORD A UNIVERSITY?

Professor von Holst's declaration in the EDUCATIONAL REVIEW,[1] that the university as it exists in Europe is not to be found in America except as a torso, suggests the query whether even the ancient University of Oxford is a university at all according to the standard thus laid down. To raise this question is no reflection upon Oxford and will not be so regarded by the most devoted Oxonian. He loves, and with good reason, these "sacred nurseries of blooming youth," this ancient seat of learning and of culture; and in our discussion we need be deterred by no memories of rare courtesies shown, for to the thorough Oxonian it is doubtless a matter of indifference whether this home and source of culture does or does not conform to the German ideal of what constitutes a university proper.

It is not my purpose to discuss the correctness of the German ideal of a university, but merely to consider to what extent Oxford corresponds to this ideal.

In the *Oxford University Gazette* for April, 1893, I find an official list of the lectures for the summer term. This list I shall compare with that of the University of Berlin, the largest German university. In this comparison we should bear in mind that the University of Berlin is larger than the University of Oxford, for, although the members of the University of Oxford are "upwards of eleven thousand in number," the number of undergraduates actually in residence in Oxford is about two-thirds the number of matriculated students in Berlin, which was, in 1891, 4611 (not including 2367 others with some privileges as to attending lectures). We should also bear in mind that the Oxford lecture list does not show all the

[1] V: 105

work done by the colleges. But the *range* of work carried on by the university is greater than that done by the colleges. It is a fact of interest in this connection that the total income of the colleges is far greater than that of the university. In fact, the income of either Christ Church or Magdalen College alone nearly equals that of the university proper. The yearly incomes of the twenty colleges range from thirty-five thousand dollars to nearly three hundred and fifty thousand dollars each. The bearing of this is important inasmuch as, while the Berlin list of lectures shows all the work that is being done, the Oxford list does not. However the work not shown on the Oxford list consists largely of drill in the classics; and however much money may be spent in this way, the general truth of the comparison between the two universities is not affected thereby.

In the University of Oxford there are five faculties, viz.: the faculty of (1) theology, (2) law, (3) medicine, (4) natural science (including mathematics), (5) arts, the work of which is divided into three great divisions, viz.: (*a*) Literæ Humaniores, (*b*) Oriental languages, (*c*) modern history. The number of courses of lectures announced for the summer term of 1893 is, in theology 42, law 24, medicine 15, mathematics 11, natural science 41, Oriental languages 20, modern history 32, literæ humaniores 193.

There are in the above enumeration some duplicates included, as, for example, some courses announced under medicine which are also announced under natural science. I have given totals as they read in the announcements without making deductions, inasmuch as it would be a difficult matter in some cases to decide from which list to subtract the duplicate announcements.

In comparing the announcements of the two universities of Oxford and of Berlin, we find in theology not much difference. Indeed, considering the disparity in the number of students, Oxford may be said to lead in the number of courses offered and even, perhaps, in the number of lectures per week. We find announced in Oxford 43 courses in theology with 93 lectures per week, and in Berlin 49 courses in *Gottesgelahrtheit* with 139 lectures per week. I have heard it intimated, by men whose opinion is of worth, that there is a striking difference in the scope of the instruction offered and in the freedom of treatment, but I have made no investigation in regard to this point.

In law, however, Oxford certainly occupies an inferior position. Law can be studied in England far better in London than in Oxford. We find in Oxford 24 courses announced with 44 lectures per week, and in Berlin 74 courses (including seminars) with 179 lectures per week. It seems fair to include the seminars in the German totals, inasmuch as a course at Oxford often consists of one one-hour lecture per week, whereas the German seminar is in session two hours. In making these computations, however, I have reckoned a sitting of a seminar as one lecture; it might, more properly perhaps, have been reckoned as two.

Taking the announcements in the order in which they occur in the *Oxford University Gazette* I find under medicine 15 courses in Oxford, reckoning every announcement, whether of lectures or of practical work in the laboratory, as a course. I find the names of thirteen instructors on the Oxford list, one of these, however, giving but one lecture, the opening lecture in regard to the "Subjects of the medical examinations." Five others are announced to give lectures, the time of which is "To be arranged." By comparing previous lists I come to the conclusion that these five lecturers give one lecture each per week. The number of lectures in the course is, I assume, somewhat elastic, as the time when the courses shall begin is also "To be arranged." Of the remaining instructors three may, perhaps, more properly be classed under the natural science instructors. In fact, their courses are announced in the natural science list also. In a German university these lectures would be announced only under natural science.

This is reducing the strictly medical instruction at Oxford to narrow limits. Comparing previous lists I find that the number of *lectures* announced under medicine, aside from the laboratory work, is usually eight per week. I speak of this at some length because of its bearing upon the question whether Oxford is in reality a university. Can it properly be said that there is in Oxford a medical faculty? Do eight lectures per week constitute a course in medicine?

Let us, however, count every announcement as a course, and compare with the instruction in medicine at Berlin. In Oxford we found 15 announcements which we might reckon as courses. In Berlin we find not 15 but 257. The number of lectures per week is, one-hour lectures 425, one and one-half hour lectures 22, two-hour lectures 29, lectures (length not stated) 114; 7 other lecture courses (number of lectures per week not stated, but say) 10, and we have a total of 600 lectures per week, which is at least 30 times the number given at Oxford. We also find in Berlin announcements of *Praktische Uebungen* (under supervision) of 390 hours per week. Clearly the strength of Oxford does not lie in her medical department.

Nor can this be accounted for wholly by the comparative want of hospitals, due to the small size of the city. Heidelberg is a smaller city than Oxford, and yet its university, a real university in the German sense of the word, and one of the most famous in the world, owing to its five hundred years of history and its uniformly maintained high grade of intellectual activity, with little more than one-third the number of Oxford's students, yet offers during the same semester 67 courses in medicine to Oxford's 15, and gives 153 lectures and seminars per week, beside the proportional amount of *Praktische Uebungen.* No, Oxford is weak in medicine because her interest is concentrated upon another department.

Next in order are the announcements under natural science. Under this head is included (in Oxford) mathematics. I find 11 courses with 23 lectures per week; in Berlin 32 courses with 77 lectures per week.

Under natural science I find in Oxford 41 courses, including as under medicine every announcement of laboratory work as a course. It is inconvenient to compare with this the total number given in Berlin, as the subjects given under the *Naturwissenschaften* do not altogether coincide with the Oxford natural science list. But we may compare the number given under sub-heads. I find in Oxford two courses of lectures given in botany (5 lectures weekly) and work in laboratory, or altogether 3 courses; in Berlin 26 courses. In geology, Oxford 2 lectures per week, practical work and excursions; Berlin 16 courses. In geography, Oxford 1 course, Berlin 6 courses. In chemistry, Oxford 5 courses; Berlin 46 courses. Oxford's intellectual resources are clearly not wasted in developing the natural sciences—nor are her financial resources, which are three times as great as those of the University of Berlin.

The next announcements in the Oxford list are under the faculty of arts. The first subdivision under this faculty is Literæ Humaniores, the Greek and Latin courses. Here at last we find the solid foundation of Oxford culture! Greek and Latin, the language and the literature, philosophy and ancient history, Plato and Aristotle, pre-Socratic philosophy, Aristotelian philosophy, Aristotle's logic, his ethics, nine courses of lectures on the *Ethics* at the same hours, Aristotle's *Politics* and his *De Anima*, Aristotle's *Poetics*, two courses on this simultaneously, another course on his *Politics*, four more courses on his *Ethics*, three more on his *Politics*, Plato's *Republic*, Books I–IV, several courses in this (during the Michaelmas term five courses on the *Republic* and five on the *Apology* and *Meno*), many courses upon Demosthenes, Sophocles, Cicero, Vergil, Tacitus, and (though not shown upon this list) a goodly number of tutors in every college, to say nothing of an indefinite number of private coaches, laying the foundations of English culture broad and deep upon a classical basis, upon the Aristotelian and Platonic views of the world. The *Canterbury Tales* might almost have been written yesterday as far as Oxford is concerned, so true is still the characterization by "Dan Chaucer, the first warbler, whose sweet breath" not only echoes still but describes fairly the present "clerk of Oxenforde."

> "A clerk ther was of Oxenforde also
> That un-to logyk hadde longe ygo.
> . . . . .
> For him was levere have at his beddes heed
> Twenty bookes clad in blak or reed
> Of Aristotle and his philosophie,
> Than robes riche . . .
> And gladly wolde he lerne and gladly teche."

Inasmuch as the Literæ Humaniores *is* Oxford, I must give a more detailed account of the 193 courses and 460 lectures per week, which are given with great regularity from term to term, with but slight modifications. The divisions under which these lectures are announced are (*a*) philosophy and ancient history, (*b*) languages and literature, (*c*) pass lectures. Under philosophy there are 26 courses with 60 lectures per week; under ancient history: (1) Greek history, 14 courses 31 lectures per week, (2) Roman history, 7 courses 13 lectures per week, (3) archæology, anthropology, geography (ancient), 5 courses 9 lectures per week. Under languages and literature there are: Greek, 20 courses 51 lectures per week; Latin, 20 courses 55 lectures per week; history of Greek and Latin literature, archæology, logic, comparative philology, grammar, and modern languages, 28 courses 65 lectures per week. The lectures for the pass men, 73 courses with 176 lectures per week, are mainly on the classics.

Of the 23 courses announced under philosophy there are 3 courses on Plato 7 lectures per week, 8 courses on Aristotle's *Ethics* (at least 5 other courses on the *Ethics* are announced elsewhere under the pass lectures), Aristotle's *Politics*, 2 courses on Aristotle's logic, Aristotle's *Posterior analytics*, etc. The name Aristotle occurs in the titles of 13 of the 26 courses. It might properly be attached to some of the others. The name Plato occurs in 3 of the courses. There is one course on the theory of knowledge from Descartes to Kant and one on Hegel's psychology and ethics (one lecture per week).

In Berlin's 23 courses, under *Philosophische Wissenschaften* one finds lectures on the history of philosophy, history of Greek philosophy, modern philosophy, Kant, logic, psychology, anthropology, moral philosophy, ethics, philosophy of religion, and pedagogics. The art of Greece is treated under *Kunstlehre*, and the Greek and Latin languages under the *Philologische Wissenschaften.*

The number of lectures per week on philosophy is about the same in the two universities, the difference, if any, being in favor of Oxford. The difficulty in making an exact statement arises from the fact that the subjects included under philosophy do not fully coincide. The most striking difference is, that while Oxford dwells almost exclusively upon the philosophy of Plato and Aristotle, Berlin and the German universities in general lay more stress upon modern philosophy. One would not be surprised to find in a German university lectures on Darwin, John Stuart Mill, or Herbert Spencer. Oxford has an occasional course on Hegel or Kant. Yet one would hardly find it advantageous to enter Oxford for the sake of a special study of modern philosophy. In short, there are few subjects which can be studied as specialties so advantageously in Oxford as in a German university. Lectures are not held in the same esteem in England as in Germany.

Only a small proportion of Oxford's annual income of more than $2,000,000 is expended in extending the bounds of knowledge. There lie before me the accounts of the curators of the University Chest and of the Colleges of Oxford for the year ending December 31, 1890. To make an analysis of these accounts would lead too far from the subject in hand. Suffice it to say that the total footings of the annual revenues reach the enormous total of $2,860,000. Deductions must be made from this for taxes, rates, insurance, etc. Yet the net revenue exceeds $2,000,000, which is more than three times the revenue of the University of Berlin. This was—for the year 1892–93—2,512,490 marks 50 pfennigs, not including the fees of the students, which belong to the professor in charge of the course for which the fee was paid. Including these fees, the total annual revenue of the University of Berlin cannot exceed $750,000. Yet, with one-third the income of Oxford, Berlin maintains 46 courses of lectures on chemistry to Oxford's 5 courses. This is a striking illustration of the difference in the ideals of the two universities.

Continuing the comparison of the lecture courses in the two universities, I come next in the Oxford list to the courses on Oriental languages, designed, I presume, to give training to the rulers of India. Yet even here Oxford falls almost as far below Berlin as in medicine or in natural science. In Chinese Oxford offers one course of 3 lectures per week and Berlin 7 courses with 43 lectures per week. Japanese, in Oxford none; in Berlin 12 lectures and 15 hours per week of *Praktische Uebungen.* The rulers of India will certainly provide better for instruction in Hindustani, and we find 6 hours per week to 13 in Berlin. But in Arabic, while Oxford gives 6 lectures per week, Berlin gives 72.

In modern history we find in Oxford 32 courses with 60 lectures per week. Here again we must compare sub-heads. In political economy and political science we find in Oxford 6 courses, two of these however being devoted to Oxford's divinity that doth hedge them in, viz.: Aristotle (in this case it is his *Politics*); in Berlin 27 courses, and Aristotle allowed to rest in comparative peace, whereas the social problems of to-day are grappled instead.

In the English language and literature we find in Oxford one course, 3 lectures per week, by a distinguished professor (who obtained his training in Germany and is highly esteemed there) on Middle English Literature. "Only this and nothing more." And why this—almost incredible—neglect of the nation's own literature in the nation's great university? English literature does not count in the examinations, and not a single student was attending this same course when given in the Michaelmas Term of 1891.

Where then may we find university instruction on the language and literature of England?[1] In America or in Germany. There are in Berlin 6 courses this semester, ranging from

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[1] This anomalous neglect in Oxford of the nation's own literature bids fair now, happily, to be remedied by the establishment of a "school" leading to a degree and "honours."

"altenglische Denkmäler" to "ausgewählte Dichtungen Lord Tennyson's." There are courses on Shakspere in nearly every German university. Can English literature be taught? No, not in England. Here the Moloch of the examinations devours the children of the land.

The Oxford list closes with a list of lectures designed especially for the edification of the pass men in Literæ Humaniores. The Berlin list announces 29 courses in *Kunstlehre und Kunstgeschichte*, touching to some extent Greece and Rome in their art, and including 6 courses on the theory and practice of music; 112 courses under *Philologische Wissenschaften*, ranging from a study of Greek roots to an *Erklärung von Kâlidâsa's Raghavamça*, the Assyrian and Babylonian languages and inscriptions, the Pyramidentexte, koptische Texte, and Mandschu-Texte, and closing with a course "Privatissima in der deutschen, englischen, französischen, italienischen, spanischen und portugiesischen Stenographie."

What is noteworthy at Berlin, aside from the number of courses offered in the established branches of learning, is the range of subjects expounded. If there is any branch of learning known anywhere in the world which is not lectured on at Berlin, it is an oversight. If there is any branch of learning in no way connected with Aristotle and Plato which is lectured on at Oxford, this also is an oversight! Or at least it is an irregularity, opposed at first as not in harmony with the traditions of the institution, and even now tolerated rather than esteemed.

Is the University of Oxford a university? Here are the four faculties usually considered as essential. And yet it is strictly within the bounds of truth to say that the spirit of Oxford is represented, not by her faculties of medicine, law, or natural science, but by that subdivision of the faculty of arts known as Literæ Humaniores.

Until one has breathed the contagion in the Oxford air, one can hardly realize the intensity of the Oxford conviction that the intellectual universe has one central sun, viz.: the double star designated Aristotle and Plato; that all other so-called suns shine by reflected light and are useful only as they serve to diffuse the light which this double luminary has been giving forth throughout the centuries.

Even the remarkable versatility of the most remarkable figure in English politics during the present century fails him when he returns to the scenes of his youth. To him also, in spite of the world-wide activities of his later years, the connection between Oxford and the civilization of Greece is one of the immutable laws of Nature. Therefore, when he returns to Oxford, he speaks not on Home Rule but on Homer.

Can it be that the rising generation begins to rebel, even a little, at this dominance of "Aristotle and his twenty books?" There are indications of a growing sympathy for the university idea of education. The *Oxford Magazine* somewhat more than two years ago, referring to the Romanes lecture to be delivered by Mr. Gladstone, said: "We venture to express two hopes . . . second, that he will find something else to lecture on than Homer. There are so many things he can do better than anyone else living, that it would be a sad pity if he repeated the eloquent rubbish of his previous visit." A lecture on Homer "eloquent rubbish"? This is rank treason to the hitherto overwhelmingly dominant Oxford idea. The same state of unrest may also be detected in a semi-serious editorial in the same magazine, from which I quote the following sentences: "It has been asserted, not without a certain plausibility, that while this university is conventionally regarded as the home of Learning in general, it is wholly unsuited for the student who has the intention of learning anything in particular. . . The student who aspires to high honors in the Natural Science School cannot complete that liberal education without a semester at Jena, or a course of lectures on the Invariability of Phyllozoa at Tübingen."

Hitherto the accepted theory of the purpose of a residence at the university has been that it was not mainly for the sake of "learning anything in particular." To the English mind it has seemed of far less consequence to furnish at Oxford lectures on the Invariability of Phyllozoa than to furnish opportunities and influences to the Oxford undergraduate for the cultivation of manliness and manners, character and courtesy. Perhaps the matter might be rightly summed up by saying that one enters a German university largely for the sake of scholarship, while the great majority enter Oxford largely for the sake of culture. And while one would not be justified in concluding that there is no culture in a German university and no scholarship at Oxford, yet this broad line of distinction has hitherto prevailed. There is and always has been at Oxford exact scholarship, especially in the subjects of the Literæ Humaniores. And Oxford is now apparently becoming to some extent a university in the German sense of the word. It is not impossible that the spirit and the ideals of Oxford, under the transformation now going on, may take more and more the direction toward research and the extension of the boundaries of knowledge which characterizes the universities of Germany, and which has given her so unique a place in the world of scholarship. The adoption of some portion of this German spirit will doubtless improve Oxford as a home of learning, or at least as a home of modern learning, although the University of Oxford will undoubtedly always differ in important respects from the universities of Germany.

Oxford is not as yet a university according to the German definition of what constitutes a university.

But whatever the ideal university may be, if an ideal adapted to all nations be possible, or whatever may be the ideals of the Oxford of the future, it is but fitting that I close with an appreciation of the charm and the stimulus of the college life of the Oxford of the present, and with a hearty recognition of the disciplinary and inspirational value of Oxford's Literæ Humaniores, on which she has nurtured a race of cultured men, who have led great movements in thought, and whose memories will always remain dear to the English-speaking race of whatever nationality.

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DISCUSSIONS

CONTENT AND FORM

There must have been a good reason why Dr. Harris, in the Report of the Committee of Fifteen, did not treat more fully the correlation of studies from the point of view known as "a division of studies into content and form." But that reason could not have been the one which prompts me to touch the matter, my reason being a doubt whether I understand the character of this division.

Mr. Gilbert's statement in regard to it, in his expression of dissent from the report,[1] is as follows: "Content, meaning that upon which it is fitting that the mind of the child should dwell, and form the means or modes of expression by which thoughts are communicated. Or it may be thus expressed: The true content of education is (1) philosophy, or the knowledge of man as to his motives and hidden springs of action indicated in history and literature, and (2) science, the knowledge of nature and its manifestations and laws. Its form is art, ... The relation of content and form is that of principal and subordinate, the latter receiving its chief value from the former."

"Content," then, is knowledge; "form" is art; and the relation between them is that of principal and subordinate. How is knowledge principal and art subordinate? It cannot be meant in the sense that knowledge is necessary as the foundation for art; this necessity would not justify the use of the word "subordinate" in contrast with it. That would be to exalt what comes first in the order of things above that which follows and perhaps crowns the former, to put the root or the stalk above the flower or the fruit that grows upon it.

The meaning must be that knowledge is *superior* to art from the educational point of view. How is it superior? The knowledge of facts a higher outcome of education, a better outfit for life, than the ability to use knowledge productively!

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[1] Educational Review, IX: 294

While reprobating this view as it has appeared in the contrast between mere acquirements and mental discipline, are we falling into it under the new terminology of "content" and "form"? At any rate the old controversy is likely to reappear so long as either of these opposites is declared to be principal and the other subordinate. Is not the relation between them, practically, in the education provided in our common schools, that of equality, and properly so? Or if not, must not the proportion vary in different individuals according to temperament and mental constitution in general? Certainly, much of "that upon which the mind of the child should dwell" is what the mind cannot dwell upon, except through mastery of "the means or modes of expression." To know the thoughts and feelings of human beings as manifested in literature and history, and in scientific treatises, too, requires the ability not merely to read, and to read easily and rapidly as the result of long and continuous practice, but to understand the structure of sentences and the relations and modifying force of words.

The opinion that "form" is subordinate may be in part due to the assumption that the value of form consists solely in its function of expression, of communication. That, surely, is not its sole function, and its value is by no means to be measured merely by the benefit accruing to the persons to whom the communication is made. A highly important function of expression is the establishment of the knowledge acquired, the "content," in the mind of him who acquires it. Without such expression he does not really and fully get the content; the act of expression "shapes our thoughts for us."

I would not be thought to imply that the advocates of the division into content and form deny or ignore the fact just pointed out. They very likely give it as much weight in practice as could be desired; but the terms employed seem to me misleading, seem to make the antithesis prominent at the expense of the deeper synthesis that exists between the things designated. As opposed to content, the word "form" suggests inferiority, because we are accustomed to regard substance as more important than external shape. Therefore, if one accepts this terminology, he is likely to think that, as a matter of course, studies classed as those of form are of less importance than those of "content" so called; a fallacy not unknown to logic, but calculated to deceive the unwary.

It may be that I do not fully understand and rightly estimate this division of studies. What seems to me the truth of the matter is that all the studies in our common schools are studies both of content and of form. A typical instance of a "formal" study is grammar. Now grammar is knowledge rather than art, and we might, therefore, expect to find it classed among the studies of content. And if we investigate the mental process involved in the study of Latin grammar, it appears to be of such sort as this: What is the content indicated by this form, by this case of the noun, this mode and tense of the verb? This construction of the sentence shows what idea, thought, feeling of the one who used the language? These modifying words reveal what shades of meaning in the writer's mind? The form is so vitally connected, so organically incorporated, with the content as not only to be necessary to it, but necessarily to lead to it. Hence the term "formal" does not express the true nature of grammar as practically studied but rather as categoried in a logical scheme.

Again, in the study of the grammar of our mother tongue, the content is but more prominent than in the case of a foreign language. In English, with its few inflections, to classify the fundamental organs in the structure of the sentence, and to tell what precise function a given word has as a modifier, and just what it modifies,—this demands and cultivates such insight into the content of the writer's mind, points the student's attention so straight to the thought, the real substance of language, that to call the study "formal," with the almost inevitable implication that it lacks, or possesses little, content—is to miss the significance of the study—a significance so profoundly discerned by Dr. Harris and so well expressed in his Report.

Might not some of the studies classed as "formal" be more truly called "forming," considering their effect in giving form to the formless, chaotic mass of material that would exist in the mind untrained by them? Of such a mind it could be said that it

> "apprehends a world of figures here,
> But not the form of what [it] should attend."

As I look at the matter, all our common studies have in them both elements, knowledge and productive ability; the production taking a different shape in grammar and in mathematics from that in drawing or in bookkeeping. The assimilating or apperceptive activity of mind is the bridge across which one of these elements passes over to the other; the travel being by no means all one way, but back as well as forth, knowledge becoming power in expression, and power becoming fresh, vitalized, re-enforced knowledge. Here, surely, is correlation.

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THE CLASSICAL CONFERENCE AT ANN ARBOR

The hospitality of the University of Michigan, in connection with the admirable arrangements projected and carried out by the Michigan Schoolmasters' Club, made the Classical Conference held at Ann Arbor, March 27 and 28, a notable gathering. The attendance of professors and teachers, mostly classical, was not far short of four hundred. The territory represented was chiefly the Central West, supplemented by some representation from the Middle States. Delegates were present from New York, New Jersey, Pennsylvania, Maryland, Ohio, Michigan, Indiana, Illinois, Wisconsin, Iowa, and Missouri. The interest in the meetings was well sustained, and at times became strongly enthusiastic. There is in the West at this time, in matters of education, a spirit and vigor which produces enthusiasm at such gatherings, and almost a militant temper. It was so at this conference, which met to consider especially the interests of our secondary classical education. The universities were represented by a large delegation of professors. There was, of course, the classical faculty of the University of Michigan, headed by Professors Kelsey and D'Ooge. Among other professors present were representatives of the University of Chicago, the University of Wisconsin, the University of Missouri, Northwestern University, Lake Forest University, the University of Illinois, the University of Indiana, Dennison College, Ohio University, Adelbert College, Cornell University, Princeton College, Union College, the University of Rochester, Oberlin College, Wellesley, Kalamazoo College, and Olivet College. The school representation was very large. Outside the strong delegation from the Michigan high-schools, there were many delegates from the States adjoining Michigan, Chicago being particularly well represented.

The programme was well arranged. There were three sessions each day, the morning and afternoon sessions being devoted to papers on special topics and the two evening sessions to more general topics. The meetings were held in Newberry Hall. At the first morning session, Wednesday, March 27, the Conference was opened by some remarks from the president of the Michigan Schoolmasters' Club, who was followed by an address of welcome, which President Angell delivered. The next speaker was Professor Kelsey, who spoke of the importance of the Conference as a means of stimulating the true professional spirit among classical teachers, especially in view of the discussions now raging about Greek and Latin. He took the ground that the claims of the classics should not be made to rest upon tradition, but upon their intrinsic excellence, and called attention to the many signs of the revival of interest in the study of Latin and Greek in our time. He touched upon the growing opinion that the best secondary education consists of a few central studies having such an allotment of time and energy as will produce the best possible results for those studies, and urged on the Conference the responsibility of classical teachers to see that Greek and Latin were taught at the right time and with sufficient fullness to insure their best effect on the pupil. The remainder of the morning and the whole of the afternoon session were devoted to papers on special topics. These special papers also occupied the whole of the morning and afternoon sessions of the second day. They were too numerous to be reviewed in this note with any justice. There were twenty-eight of them. In general, it may be said that they were grammatical, historical, archæological, and, to some extent, pedagogical in character. Most of the papers were on Latin themes. The Greek papers were nearly all grammatical, whereas the Latin papers took an extensive range. Only one thing was lacking, and that was a due proportion of papers bearing particularly on the æsthetic and literary phases. Philology, archæology, history, and interpretation were all represented, and, with a little of the other, the programme might have been characterized as perfect in point of distribution of subjects. Most of the readers of these papers were men under forty-five years of age. There were older men present, but they were not numerous. It was a conference of rising younger teachers of the West, and if the strong interest they showed in the Conference is reflected in their school work, the lovers of Latin and Greek have great cause for encouragement.

The two evening sessions excited deep interest. On Wednesday evening the topic for discussion was the question of a six-year course in Latin instead of the present four-year course. The first paper of the evening was read by Professor West of Princeton, who advocated extending the course to six years by beginning Latin two years earlier, arguing that such a proposal was good for Latin because the development of a child's mind made it better for him to begin Latin at twelve than at fourteen, because, if Latin is learned early, it is a great help toward other studies, notably the modern languages and English, and also because the best experience of France, Germany, and England points in this direction. The practicability of the proposal was then discussed, and the ground taken that it is possible to get a six-year course, if the extension is made gradually. It was also argued that this extension of Latin would incidentally be most helpful to Greek, because of the impossibility of teaching Latin in the best way without knowing some Greek at the same time. The plea of Latin for its own integrity, seen in this plea for its extension to a six-year course, is at the same time a plea which cannot be met fully without Greek itself being stimulated. Professor Hale of the University of Chicago followed, emphasizing the positions advanced by the previous speaker. He developed the further consideration that Latin, being a difficult study, needed more time than it now had, and, as it could not be prolonged later than it is now prolonged in the college, it must begin earlier. Superintendent Nightingale of the Chicago high-schools then presented the question from his standpoint, and greatly gratified the Conference by the announcement of the three-year course in Greek which is now established in the Chicago high-schools, and by the further announcement that there was good hope of establishing a six-year course in Latin. The Latin and Greek question naturally came up together in the running discussion which followed these papers. One of the speakers, while favoring more preparatory Latin, had doubt about the wisdom of securing this by extending the course to six years, inclining to more hours a week of Latin through the present four-year course. But, apart from this, the whole drift of the discussion was in favor of the six-year course, and the Conference passed unanimously the following vote:

"*Resolved*, That this Conference strongly favors a six-year course in Latin in our schools."

Five exercises a week throughout the six years, or about one-fourth of the whole school time of the pupil, was considered the proper amount of time for the course. Naturally the Greek question came up in connection with Latin, and there was no dissent from the proposition that the recommendation of the Committee of Ten, virtually reducing preparatory Greek from three years to two years, was unsound and calculated to destroy the study of Greek. President Eliot's menacing words at the New England Schoolmasters' Association in Boston last December were recalled, and his advocacy of two years as against three years of Greek, in spite of the unanimous vote of the American Philological Association to the contrary, met with decided expressions of opposition. The opinion of the Conference on this point was unanimous, and found embodiment in the following resolution:

"*Resolved*, That this Conference disapproves of the proposal embodied in the Report of the Committee of Ten, reducing the amount of Greek preparatory to college, and joins with the American Philological Association in declaring that at least three years of Greek ought to be provided in the classical courses of our secondary schools."

The adoption of this resolution concluded the session of Wednesday evening. After this session there was held a meeting of a large committee appointed to prepare a minute on the question of what should be the preparation of those who intend to teach Latin and Greek. Professor Bennett of Cornell University was chairman of this committee. The following resolution was provided for submission to the Conference, and unanimously adopted by the Conference on Thursday:

"*Resolved*, That this Conference desires to express its sense of the importance of a thorough training of teachers in all grades of classical instruction. Especially does it urge adequate preparation for the work of secondary education. The instructor should know much more than he is called upon to impart to his pupils. In the High School the ideal teacher of the classics will be one who has not only specialized in these branches as an undergraduate and graduate, but who also, by instinct and training, possesses the enthusiasm to add constantly to past attainment by new study."

At the session Thursday evening Professor Paul Shorey of the University of Chicago discussed the influence of the classics in modern education. Although he had an old theme, he made it almost new by the pleasing subtlety with which he handled it. He is a master of refined irony, and those who heard his address at the International Congress of Education in Chicago in 1893 were well prepared for his presentation at Ann Arbor. Taking the ground that the liberal education in which the classics are an element is a distinct type, he insisted that radically different educational types were not to be mingled and confused under one degree, and that in case the Bachelor of Arts degree should be finally purloined from its historic possessors, a new degree should be selected to label that type of education in which the classics are an integral part. Professor Shorey's address was followed by a paper by Professor D'Ooge of the University of Michigan on the newly discovered Hymn to Apollo. After his paper the hymn was sung by Professor Lamson of the School of Music connected with the University of Michigan.

Such, in brief outline, was the Classical Conference at Ann Arbor, the largest and most representative gathering of classical instructors yet held in the West. Its temper was alert, enthusiastic, and aggressive; the things which were most dear to it were the elevation of the dignity of classic teaching to a true professional standard, the extension of the preparation in Latin to a course long enough to produce the best effects upon the pupil, and an inflexible opposition to crippling the study of Greek in our academies and high schools. The solidity of opinion on these points will prove a great help to the cause of Greek and Latin through the whole West, and will do good in our Eastern States as well.

ANDREW F. WEST

PRINCETON COLLEGE

VIII

REVIEWS

Four American universities: Harvard, Yale, Princeton, Columbia. New York: Harper & Brothers, 1895, 202 pp. $3.50.

This sumptuous and handsomely illustrated volume contains four essays or sketches describing the history and the ideals of four of the oldest and best known institutions of learning in America. Each of the four is sympathetically described by one of its leading teachers, and in every instance but one that teacher is also an alumnus of the college he serves. Mr. Charles Eliot Norton writes of Harvard, Mr. Arthur T. Hadley of Yale, Mr. William M. Sloane of Princeton, and Mr. Brander Matthews of Columbia. This list of names amply justifies the expectation, which an examination of the volume fulfills, that the several articles are well and attractively written.

It is impossible to overestimate the influence of these four great centers of learning on the intellectual life of the United States. It almost seems as if, in the vicissitudes of their history, they reflected the successive stages of colonial and national progress, as recorded not only in institutions but in men. It is a long way from 1700 to 1900, but no farther than from Increase Mather to Phillips Brooks.

The widest direct influence on the country as a whole has undoubtedly been exercised by Yale and by Princeton, and that for substantially the reason which Mr. Hadley gives when comparing Yale and Harvard:

"The fact that Massachusetts was always ready to take an advanced position carried her too far for the rest of the United States to follow. It was so in the Constitutional Convention of 1788; it was so in the anti-slavery movement; it was so in many essential matters which affected the development of Harvard College. By contrast with Harvard, Yale has a national character. It did not move too fast for the people of the United States as a whole. In 1800, as in 1894, it was a national college" (pp. 50, 51).

But of late years the Massachusetts aggressiveness and progressiveness have produced rich results, and to-day secondary and higher education, the country over, are molded more largely by the example and precept of Harvard than by any other force. Harvard's primacy in higher education is undisputed.

Another very potent source of influence for Yale and Princeton has been the fact that they have both trained hundreds of teachers, by whom schools without number and many colleges have been founded and built up. Mr. Brander Matthews sees this, and is quite right in tacitly ascribing the local circumscription of Columbia's direct influence in large measure to the fact that in years past she has trained comparatively few teachers (p. 201). Even Columbia's roll of publicists, honorable as it is, is insignificant in length when contrasted with that to which Mr. Sloane points with pride on behalf of Princeton (pp. 99, 100).

Of the four institutions, Princeton and Columbia have been the last to come to a realization of the possibilities that were open to them. Princeton owes her regeneration almost wholly to the genius of the lamented McCosh and the group of younger teachers that he drew about him, with every detail of whose work he was in intelligent sympathy. Similarly Columbia reveres the name and fame of the scholarly Barnard, who never tired of pointing out the path of progress and of urging that it be at once entered upon. As a result, Princeton stands at the head of the institutions that are distinctively colleges, and if she curbs the unwise ambition of some of her friends to expand into a university, and so scatter her forces and resources, she will be able to maintain that position for a long time to come. Yale's difficulties in its period of transition are mentioned by Mr. Hadley (p. 83), and it would be the part of wisdom for Princeton to avoid them.

Columbia, on the other hand, has a very different mission. Situated in the commercial capital of the nation, and sharing fully, as Mr. Brander Matthews points out, in the life and ideals of that capital, she is necessarily deprived of that desirable semi-rurality—to use a happy word of Mr. Brander Matthews—which counts for so much in making possible the highest type of college life. Columbia is therefore prevented by the disadvantages of her location from dealing with the college problem in the way that is open to Princeton and to Yale. On the other hand, the city is a university's natural home, and for this reason Columbia would be blind to her opportunities if she did not undertake the solution of the problem of the proper organization and work of an American university. That she is doing this, and how she is doing it, Mr. Brander Matthews shows in detail.

Doubtless each of the four institutions has something still to learn from the experience of the others, and can learn that something without sacrificing its individuality. But there is one element in the intellectual and social life of the Princeton students that has no counterpart elsewhere. I refer to the two great literary societies or "halls," in which the undergraduates receive their practical training in exposition and debate. Mr. Sloane refers to these institutions (pp. 130-132) with pardonable enthusiasm. Harvard, Yale, and Columbia, alike, might imitate them with great advantage.

The strongest impression left on the mind of the reader of this book is that the organization of American education is not only in a transition, but in an unsettled, state. Each of the four writers refers to difficulties and perplexities that grow out of the restlessness of existing conditions. It may not be out of place to suggest that none of these difficulties will be overcome, and none of the perplexities resolved, unless they are approached with a clear understanding of the forces that have brought them about. A full knowledge of the past history and traditions of these four institutions will prove to be a lamp of illumination for the new way upon which they have entered.

N. M. B.

Studies in American education—By ALBERT BUSHNELL HART, Ph. D., of Harvard University. New York: Longmans, Green & Co., 1895: 150 p. $1.25.

Professor Hart is a university professor of the modern type, who is not above trying to be a good teacher as well as a scholar and investigator. Not only has his personal teaching been extremely successful, but his sympathies with education have led him to make studies in a variety of educational fields. His face and voice are familiar at teachers' meetings and associations, and in the Cambridge school committee he has been an important force in planning and carrying out new policies for the improvement of the schools. For all of these reasons this collection of his essays on educational subjects has a decided interest. All of the papers that make up the volume have been published before—one in the *Chautauquan*, one in the *Atlantic Monthly*, one in the *School Review*, one in the now discontinued (unhappily) *Academy*, and two in the EDUCATIONAL REVIEW.

Two of the papers deal directly with Professor Hart's own subject, the teaching of history. Here he adds the weight of successful experience to that of personal authority. Perhaps it is too much to expect that the average history teacher will at once give up his wretched and dismal chronologizing, and lead his students to the intensive study of some one of the absorbingly interesting periods that Professor Hart indicates; but until he does, he will never be teaching history, and his students will stand about an even chance of never finding out what history really is. The superstition that students must know everything that ever happened, in its chronological order, before they can be allowed to proceed to the detailed study of a given movement or period, and that on no account must they be allowed to "specialize"—as it is called in the obscurantist jargon—before they are feeble with age, has had the effect of rendering worse than useless much of the so-called history teaching in schools and colleges. Happily, better things are in sight; and Professor Hart's teaching and example will hasten their coming.

Of the four remaining essays one deals with the profession of teaching; one with college athletics; one with grammar-school reform, and one with university participation. The latter title is a phrase of Professor Hart's coining, and it denotes something that he offers as a substitute for university extension. The substitute consists essentially in reaching the teachers by co-operation and instruction, instead of offering short courses of elementary lectures to miscellaneous audiences. The wisdom of Professor Hart's proposal is undoubted.

There is an obvious misprint on p. 52, where "1892" should be "1893." N. M. B.

Lectures on human and animal psychology—By WILHELM WUNDT. Translated from the Second German Edition, by J. E. Creighton and E. B. Titchener. London: Swan Sonnenschein & Co.; New York: Macmillan & Co., 1894, 454 pp. $4.00.

The importance in the history of experimental psychology of Professor Wundt's *Vorlesungen über die Menschen und Thierseele*, is very great. Indeed, psychology as an exact science might date from the publication of this work in 1862. Lotze had published just ten years earlier his *Medicinische Psychologie*, and Fechner's *Elemente der Psychophysik* was published in 1860. These works show greater originality than Wundt's, but for this very reason they must be considered rather as monographs than as treatises covering the whole field. Wundt in this early work, and in the *Physiologische Psychologie* (1874, and later editions), has defined and directed the course of a science to a degree rarely accomplished by the labors of a single man.

Wundt regarded his lectures of 1862 as superseded by the *Physiological psychology*, but this latter work having become in its later editions rather technical and very large, he decided to rewrite the lectures. This he did with his usual diligence and thoroughness, and the new edition published in 1892 is practically a new book. The translation is the first English version of any of Wundt's works, and is an important contribution to scientific and educational literature.

The book includes thirty exercises in the form of lectures. After an introduction on the methods and aims of psychology, three lectures are given to the intensity of sensation. The discussion of intensity seems to be somewhat diffuse and obscure. When Plato calculates that a just king is 729 times as happy as a tyrant we recognize a partial playfulness, but Wundt seems to be quite in earnest when he tells us how to use logarithmic tables and determines that "a pressure of 100 grams produces a sensation which is 3.698 times as great in intensity as the sensation arising from the pressure of $\frac{1}{6}$ gram." Hearing, vision, and muscular sensations are reviewed, special attention being devoted to the perception of space. Next follow lectures on feeling, will, and attention, including a discussion of consciousness, perception, and apperception. Wundt's views on these subjects have not been always understood, and are here stated more clearly, perhaps, than elsewhere. One lecture is taken up with the time-phenomena of mental processes and two with association, after which intellectual processes and their disturbances are treated, hypnotism being discussed in some detail. Two chapters are now interpolated on animal psychology and, later, a chapter occurs on social instincts of animals (though social psychology of man has been eliminated, in view of a book in preparation on this subject). These chapters seem hardly of enough importance, or sufficiently germane to the rest of the book, to justify its title. The emotions and the will are discussed, and the work concludes with a lecture on the general nature of mind and its relation to the external world.

The book thus covers a field so wide that its contents can scarcely be mentioned in a review, and it is quite out of the question to describe Wundt's contributions to psychological fact and theory and to discuss their strength and weakness. It is, perhaps, more in place to ask to what class of readers will this book and its translation be of service. It is evidently not of great importance to special students, as all the problems are discussed by Wundt elsewhere and in more detail. It will, however, be useful as an introduction to the subject for the general reader, and as a college text-book. Just how completely it will serve these purposes must be demonstrated by experience. Wundt's statements are more positive and dogmatic than the present state of our knowledge warrants, and the form of lectures adds to the general air of " little children, listen to the law." But we must admit that no one has so great a claim to speak with authority as Wundt, and if someone must be followed it is safest to follow him.

The translation is very good, as would be expected from the authority of the translators. The terminology used, though slightly awkward at first, is in general likely to be adopted. Thus the verb " to sense " (*empfinden*), corresponding to sensation as " to perceive " does to perception, is needed. For a new edition the translation should be read by a physicist; *e. g.*, we are told that the velocity of light is " 42,100 miles in the second "; (a translation of the German " Meilen," which should have been changed to kilograms in the original), of " air vibrations of different velocities " (for rates), etc. The type is good, but the illustrations, reproduced from the German edition and with the German lettering, do not come out very well. There is no index. The price is high for a text-book.

J. McKeen Cattell

Columbia College

The history of the English language—By Oliver Farrar Emerson, A. M., Ph. D., Assistant Professor of Rhetoric and English Philology in Cornell University. New York: Macmillan & Co., 1894, 415 p. Price $1.25.

The especial excellence of this series of studies in the history of certain elements of the English language is that it is particularly strong just where most of the other works in use are particularly weak. It is particularly strong in its consideration of the earlier centuries of the life of the language, and in the soundness and accuracy of its presentation of the phonological and linguistic principles embodied in the language forms. Considered as a complete history of the English language the work may be criticised as partial, lacking in proportion, and incomplete; since, of all the centuries of English language history, it gives detailed narration of the occurrences of only three or four; of all the characteristics of the English language, it makes sound-changes and phonological results disproportionately prominent; and of all the constituting elements of the English language, it lays such dominating stress upon a single one—the Teutonic. This criticism, if made, would be not wholly unfair. For the various sections of the work are of most unequal earnestness of treatment. It is a treatise in five sections. The first two of these sections are given to a rapid review of the main facts of the early development of the English language from its Teutonic base, and of the foreign and dialectal influences which helped to form and modify it. The third section discourses, in a rather fragmentary and inadequate fashion, upon the history of the vocabulary of the language. The fourth section—a fine piece of work—restates the principles and narrates the history of English etymology, and gives a remarkably compact statement of the vowel and consonant changes in the earlier periods. The fifth section gives the history of the English inflections and the story of the general inflectional changes from Old to Modern English. The strength of the book is found in the fourth and fifth sections, which are so well constructed and so clearly written that they give the book standing and position at its first appearance. I do not know where else one can find a treatise which, in the same space, presents, in such useful shape, the facts given in the fourth and fifth sections. For school use Sweet's *History of English sounds*, and *New English grammar*, are too elaborate, extended, and expensive; Skeat's *Principles of English etymology* and Mayhew's *Old English phonology* are too technical; and there certainly will be a demand for this accurate and remarkably concise presentation.

The weakest portion of this work is its treatment of what it is customary to call the "foreign element" in English speech.

It is odd that writers on the history of the English language invariably think it necessary to become advocates for one or other of the original constituents of the language. Professor Emerson is all for the Teutonic. Fully three-quarters of this work treats of the history of the Teutonic element and of the development of its phonology and inflections. Almost nothing is said concerning the changes brought about in the Middle English period through French influence. Even in treating the vocabulary the author seems to be laboring to prove something creditable to the Anglo-Saxon portion of the vocabulary, rather than striving to furnish a complete summary of the facts. He even goes back thirty years and resurrects the remarkable tables of G. P. Marsh, in which a fine numerical showing is made for the Anglo-Saxon words of speech by the ingenious method of crediting to the Anglo-Saxon all of those words which are common to the linguistic grandparents of the English language, and by counting the bits of small change of speech—*and*, *for*, *of*, *to*, *was*, etc.—as separate "words" at each time of occurrence; and he presents this showing as something calculated to elate one class, and to depress another class of language students. This is really partisanship, and it lessens the value of this book, for it is not supported by facts of modern usage. In Professor Emerson's own preface, for example, if I have counted correctly, more than seventy per cent. of the nouns and verbs—of the really important words that is, whose selection involved brain action on the part of the author—are "foreign" words; and it is a very well-written preface. Should we not in our text-books, as well as in our written discourse, be hospitable to these words? Certainly any suspicion of partisanship is harmful to a text-book. And certainly in a history of the language the flexibility, the enrichment, the power of expression of abstract ideas, the capacity for fine distinctions, given to the English language as a legacy from the Latin, the Greek, the French, deserve a larger recognition than is found in this work.

But if the book is not a complete history of the language it is yet an excellent introduction to the history; and within its limits it is one of the most useful text-books that a teacher of English can find. It deals with the oldest period of the language, with the oldest element of the language, and with the oldest and most fundamental characteristics of the language. It is sufficiently technical to compel a certain competence in the teacher who attempts to use it—which is itself a wise compulsion—and yet will be found to be perfectly clear to any well-informed instructor. The terms and descriptive names used in it are the ones also used by scholars in other regions of the earth, and not monuments to individual eccentricity. And it deals mainly with the important and continuing elements of the language rather than with the surviving evidences of its mistakes and failures.

The study of the English language is certainly becoming more scientific, and the opportunities for sound study are rapidly improving. Within the past year have appeared the Old English text-books of Cook and of Bright, the American edition of Zupitza's *Uebungsbuch* by MacLean, the revised edition of Sweet's *Reader*, and Clark Hall's *Anglo-Saxon dictionary*. Such activity evinces interest. This excellent book of Professor Emerson has appeared at a fortunate time.

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A scientific French reader—Edited with Introduction, Notes, and Vocabulary by ALEXANDER W. HERDLER, Instructor in Modern Languages, Princeton University. Boston: Ginn & Co., 1894, 186 p. Price 85 cts.

The increasing importance of technical instruction, with which the development of modern language teaching advances equally; the pre-eminent position of French practical work; and the peculiarly rich expansion of electrical utilitarianism in France as with us, have suggested to the editor a volume which those of our professors, of French or even English-spoken science, who have worried their winters or spent their summers in trying to discover and import the right text-book will appreciate. Professor Herdler, already known by his editing of a Spanish text and by his contributions to romance criticism, is practically a pioneer in a new and desired branch of textology. The editor has included forty-eight extracts, admirably selected and covering sufficiently the scale of sciences, mechanics, physics, chemistry, and especially, electrics, to solve another difficulty in our scientific schools, where differentiation of courses complicates the choice of material of best suitability and practical worth for each set of students. The power of popularizing science has always been a peculiarly French trait. The genius of the language makes this possible. So that this *Scientific French reader* serves a triple purpose: it is a lesson in the logic of clear expression; it is a medium for the mastery of a very modern and material French; it teaches science. But it really has an ethical value, in presenting to students a phase of French mind and work which they doubt. Professor Herdler has admirably carried out his plan, and aided it by the introduction of many interesting cuts.

The analytic character of the French language as an obstacle to compound words is brought out by the remarks of the editor, as well as the need of a good technical dictionary, though Tauchnitz' *Tolhausen* had, save the print, seemed fairly fit for average use. The need in this particular instance has been met by a carefully compiled and most clearly stated (and typed) vocabulary, with definitions of the more important terms. The notes, "chiefly scientific or biographical," are scarcely full enough in proportion to text. From one to twenty-one notes (generally only two to six), often of less than a line,—on passages which, if average, are about three pages, yet vary from a few lines to twenty pages,—cover less than eight pages for the whole book. This deficiency is made up in large measure by the explanations of the vocabulary. But the tendency of text-books to limit annotation (a tendency not due to editors nor to a high theory of real educational needs, but, *at the best*, to a supposed demand for "leaving the teacher something to do") makes the paucity of notes itself almost superfluous. In the present instance, their value saves them from this reproach, without impugning the principle. We notice a few misplacements of references to numbers in both text and notes, but hardly worth the public chronicling. But it is doubtful if extreme courtesy could call the old (any more than the new!) Casino de Paris, "a fashionable clubhouse," though its use as an artificial skating-pond was a social fad. XLII. 11, "*accuse*" scarcely means "denounces," but, as proved by the contrast with American architectural custom which conceals iron frame, "acknowledge" (cf. *accuser réception*). These are but slips in a book new in kind, and as admirable in conception as in its execution.

A. GUYOT CAMERON

YALE UNIVERSITY

A history of the United States for schools—By JOHN FISKE, Litt. D., LL. D. With topical analysis, suggestive questions, and directions for teachers, by FRANK ALPINE HILL, Litt. D., formerly Head Master of the English High School in Cambridge. Boston: Houghton, Mifflin & Co., 1894, 474 p. Price $1.00.

Mr. John Fiske has probably done more than any living scholar to awaken in the reading public an intelligent and healthy interest in American history. His remarkable powers of lucid exposition and philosophical generalization have combined to give his work an unusually stimulating character. When, then, it was announced that he was preparing a school history of the United States the highest expectations were aroused. In some regards these expectations are fully met, while in others the reader must confess to a disappointment. For the periods which have been covered in earlier works by Mr. Fiske, the present narrative is of a very superior quality, and deserves, it seems to me, to be regarded as the best of our school histories; but the part dealing with the national period is less detailed and less carefully written.

Among the excellences of the book are its fresh and interesting literary style,—so different from the dry and hackneyed phraseology of the older books,—the judicious choice and arrangement of subject-matter, the full apparatus of topics, questions, and suggestions by Dr. Hill, the variety of carefully selected and genuinely instructive illustrations, and, finally, its beautiful and substantial mechanical execution. Its defects are of a kind easily remedied by careful revision. In the first place, the maps are not up to the standard of the rest of the work. Hardly one of them contains the lines of latitude and longitude. It is consequently impossible to test the accuracy of the drawing. Some of the boundary lines are wrong. In the maps opposite pp. 272 and 273 West Florida is marked as belonging to the United States both before and after the Louisiana purchase, while in the map on the back cover it is rightly given as coming to the United States in the Florida cession of 1819. On this last map, however, the Mississippi is given as the boundary of Louisiana to its mouth. In the map on p. 302 giving the area open to slavery in 1820, the northwest corner of Missouri, first annexed to it in 1836, is included in its boundaries of 1820. The map opposite p. 374, showing the original extent of the Southern Confederacy, gives Virginia minus West Virginia.

Among inaccuracies in the text may be noted the following: On p. 267 Talleyrand is styled Prince Talleyrand in 1797, although the title was not conferred until 1805. On p. 347 we read: "The Constitution had provided that the bringing of slaves from Africa into the United States should be stopped in 1808, and it was accordingly stopped. In 1857 the illegal traffic was resumed, and African slaves were brought into our Southern ports with scarcely any attempt at concealment. President Buchanan connived at this slave trade, and it went on growing in dimensions until it was stopped by the Civil War." The Constitution provided that the slave trade should *not* be prohibited before 1808. It was prohibited in 1807 to take effect in 1808, and declared to be piracy in 1820, but it never was completely suppressed until the Civil War. A wealthy slaveholder of Louisiana told Harriet Martineau in 1835 that the annual importation of slaves (native Africans) was from thirteen thousand to fifteen thousand.[1] A mass of confirmatory testimony may be found in Mr. Du Bois' paper in the Report of the American Historical Association for 1891. The charge that Buchanan connived at the revived slave trade is apparently unfounded. The account of reconstruction is too brief to be clear; the fifteenth amendment, for example, is said "to have guaranteed to all adult male negroes the right of voting." The correct statement is that it prohibited the denial of the right of suffrage on account of race, color, or previous condition of servitude. Similarly inexact is the description of the Bland Bill, p. 403, while that of the Sherman Act of 1890 is totally wrong.

The portraits in Mr. Fiske's book have been selected with care, and form one of its conspicuous merits. Children get indelible impressions of these faces, and consequently portraits should be chosen, wherever it is possible, which depict the subject at the prime of his powers, or when in the midst of the work which made him famous. This principle, for the most part, has been followed by Mr. Fiske. The prominent exception to it is cited rather to illustrate the soundness of the principle than as a subject of criticism. Opposite p. 324, on which the literary development of the years 1830–1840 is referred to, are the portraits of ten eminent American literary men who were contemporaries. Eight of them were born within seven years, yet in the pictures there is the widest diversity of ages.

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[1] *Society in America*, II, 83.

Hawthorne appears, as he ought to, as about thirty-five, and Irving and Prescott, equally appropriately, as between forty-five and fifty; but Longfellow is apparently over seventy, and Whittier, Emerson, and Holmes are also well stricken in years. On p. 323, to illustrate the narrative of the rise of the Abolition movement, are pictures of Garrison, Phillips, and Parker, all old. Garrison seems about fifty-five, and Phillips between fifty and sixty. Depicting these men as old in connection with their anti-slavery work cannot fail to give children the idea that the early Abolitionist leaders were middle-aged men. But one of the profoundest truths of history is that such revolutionary movements are ordinarily the work of young men, and are resisted by their elders. Not the least important difference between Webster and Clay and Seward and Chase in 1850—one, in fact, which lay at the bottom of the other differences—was the twenty odd more years of life behind the older two. Reformers especially should be represented as they were at the rise of their influence. Historic truth requires that variation and change should be associated with youth and hope, and, in turn, this association stimulates youth. It is incongruous that Bryant, who laid the foundations of his literary distinction before he was twenty and wrote the best of his poetry while still a young man, should be represented on the walls of so many schoolrooms as a venerable sage between eighty and one hundred.

In conclusion attention may be called to Mr. Fiske's excellent list of novels and poems illustrating different incidents in our history, and to the well selected series of reference books relating to the different periods. In addition Dr. Hill suggests a "minimum library," which does not strike one as very successful. It contains nothing on the period after 1810. Similarly, in his suggestions to teachers, he stops with McMaster's third volume, with the sole exception of *Battles and Leaders of the Civil War*. One must regret that he did not draw on Mr. Fiske's list for more extended references.

EDWARD G. BOURNE

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NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

The present movement, wholly praiseworthy, to put some content of value into the studies of the elementary school has called out *Stories of old Greece*, by Emma M. Firth (Boston: D. C. Heath & Co., 1894, 108 p. 30 cents), a simply told outline of some dozen or more of the tales of Greek mythology. It is distinctly a useful book.——The interesting story of *Higher education in Rhode Island* is told by Dr. W. H. Tolman in Circular No. 1, 1894, of the series issued by the Bureau of Education (Washington, D. C.: Government Printing Office, 1894, 210 p.)——The sixth handsome volume, containing Professor Skeat's learned introduction, together with an elaborate glossary and indexes, completes the great Clarendon Press edition of Chaucer's collected works (New York: Macmillan & Co., 1894, 445 p. $4.00). It is announced that a supplementary volume will shortly appear, containing the *Testament of love* (in prose), and the chief poems which have at various times been attributed to Chaucer.——The capital and very useful series of *Economic classics* that Professor Ashley of Harvard is editing comes on apace. *Select chapters and passages from Adam Smith* and the first six chapters of Ricardo's *Principles* have already appeared (New York: Macmillan & Co., 1895. 75 cents each). Selections from Mun, Child, Turgot, Roscher, and others are promised.——The economic aspect of history, which is coming more and more to attract the attention of thinking men and women, is admirably presented, so far as England is concerned, in *Outlines of English industrial history* by Professor Cunningham of King's College, London, and Miss McArthur of Girton College, Cambridge (New York: Macmillan & Co., 1895, 274 p. $1.50).——Mr. Gordon's edition of Fonblanque's *How we are governed* has passed through sixteen editions. It is a summary of the administration of the British Empire (London and New York: Frederick Warne & Co., 1894, 208 p. 75 cents).——Students of English versification will be careful not to overlook Mr. Robert Bridge's examination of Milton's prosody (New York: Macmillan & Co., 1894, 80 p. 40 cents.)——Professor Mach of Prague has brought together in an attractive volume of *Popular scientific* *lectures* a very valuable series of papers and addresses (Chicago: Open Court Publishing Co., 1895, 313 p. $1.00).——The Stanhope Essay for 1892 is *The making of the England of Elizabeth*, by Allen B. Hinds, of Christ Church. It is a good instance of careful historical writing from the sources (New York: Macmillan & Co., 1895, 152 p. 90 cents).——Professor Hiram Corson's *Aims of literary study* is really a series of brief papers on the study of literature, written from an elevated and inspiring point of view (New York: Macmillan & Co., 1895, 153 p. 75 cents).——One of the most important philosophical publications of the year is the English translation of Sigwart's *Logic* (New York: Macmillan & Co., 1895, 2 vols., 391, 584 pp. $5.50).——Professor Butcher of Edinburgh has developed his earlier papers on Greek æsthetics, and prefixes to them a critical text and a translation of the *Poetics* of Aristotle, the whole being entitled *Aristotle's theory of poetry and fine art* (New York: Macmillan & Co., 1895, 384 p. $3.25). ——A curious but not uninteresting volume is *The schoolmaster in comedy and satire* (New York: American Book Co., 1895, 592 p. $1.40). In the questions based upon the text Mr. Bardeen finds himself packed in between Fénelon and Miss Edgeworth.——*Voice, speech, and gesture* is a compilation by half a dozen writers of information concerning the physiology of the voice and its use in public speaking. A large collection of extracts for reading and recitation is appended (New York: G. P. Putnam's Sons, 1895, 840 p. $3.00).——*Meteorology*, by Mr. Russell of the United States Army, is a scientific and practical treatise on weather and the methods of forecasting it (New York: Macmillan & Co., 1895, 277 p. and numerous charts. $4.00)——Of all the valuable discussions contained in Dr. Harris's St. Louis reports, one of the most frequently quoted is that on *How to teach natural science*. Thoughtful teachers will welcome it in the tasteful dress of this new edition (Syracuse, N. Y.: C. W. Bardeen, 1895, 46 p. 50 cents).——*State education for the people* brings together in one volume a capital collection of essays on various phases of the educational movement in Great Britain and the Colonies (Syracuse, N. Y.: C. W. Bardeen, 1895, 176 p. $1.25).——M. Ernest Lavisse of the French Academy has brought together in a volume entitled *À propos de nos Écoles* (Paris: A. Colin & Cie., 1895, 250, p. 3 fr. 50c.) a series of educational papers that treat from various points of view the thesis that education, but never mere instruction, should be the aim of schools of every type and grade.——Miss Mary H. Page prepared for the Gilchrist Trustees a very brief and in no sense valuable report entitled *Graded schools in the United States of America* (New York: Macmillan & Co., 1894, 71 p. 60 cents). ——*English history in Shakespeare's plays*, by Beverley E. Warner (New York: Longmans, Green & Co., 1894, 319 p. $1.75), is a book of a very valuable and suggestive type. High schools will find it extremely useful for its practical co-ordination of history and literature.——Vedder's *American writers of to-day* (Boston: Silver, Burdett & Co., 1894, 326 p. $1.50) is chiefly remarkable for its optimistic view that the best work of most of the authors discussed is still to come.——Of all the recent admirable editions of Chaucer, the new edition of Saunders' *Chaucer's Canterbury Tales* (New York: Macmillan & Co., 1894, 487 p. $1.00) most commends itself for use by young students. The matter illustrative of the text is full and excellent.——Walker's translation of Ostwald's *Manual of physico-chemical measurements* (New York: Macmillan & Co., 1894, 255 p. $2.25) is a book whose value will commend it for use in physical and chemical laboratories everywhere.——Mr. Phyffe's *Five thousand words often misspelled* (New York: G. P. Putnam's Sons, 1894, 303 p. 75 cents) will take its place by the author's other works as a valuable book of reference.——Dr. Paul Deussen's extremely interesting *Elements of metaphysics* (New York: Macmillan & Co., 1894, 373 p. $1.50) is based on Kant and Schopenhauer, with important references to the philosophy of the Orient.——Mr. Jackman's work in elementary science is so well-known that many teachers will turn eagerly to his *Field-work in nature-study* (Cook Co. Normal School: Published by the author, 1894, 55 p.)——Mr. Bardeen displays his accustomed foresight and good judgment in putting before American teachers a good translation of Pestalozzi's *How Gertrude teaches her children* (Syracuse: C. W. Bardeen, 1894, 256 p. $1.50). A careful student will get more practical suggestion from this treatise than from all of Pestalozzi's other works put together.——Professor James Seth's *Study of ethical principles* (New York: Charles Scribner's Sons [Imported], 1894, 460 p. $2.50) is a vigorous and well-ordered study of fundamental moral conceptions.——Miss Scott of Bryn Mawr College has made a distinguished contribution to mathematical literature in her *Introductory account of certain modern ideas and methods in plane analytical geometry* (New York: Macmillan & Co., 1894, 288 p. $2.50).——Indispensable for school officers in New York and useful for anybody is the *Handbook for school trustees* (Syracuse, N. Y.: C. W. Bardeen, 1894, 93 p. 50 cents) that Mr. Bardeen has prepared on the basis of the provisions of the new consolidated school law.——Superintendent Kennedy of Batavia writes well, and in his eloquent essay, *Must Greek go?* (Syracuse, N. Y.: C. W. Bardeen, 1894, 66 p. 50 cents), he has warmly espoused the cause of Greek as an invaluable educational instrument.——A well-made and beautiful edition of Irving's *Tales of a traveler* has just been brought out by Dr. W. L. Phelps of Yale (New York: G. P. Putnam's Sons, 1894, 555 p. $1.00). The volume is a very cheap one and ought to be widely used in reading classes.——Mr. Salt, who is both a humanitarian and a vegetarian, has put into his *Animals' rights* (New York: Macmillan & Co., 1894, 177 p. 75 cents) some very excellent things, and also some very exaggerated and crude ones.——Professor Boyesen, himself a Norseman, has just published a volume of studies of Björnson, Lie, Andersen, and others, under the title of *Essays on Scandinavian literature* (New York: Charles Scribner's Sons, 1895, 288 p. $1.50).——In *The Arthurian epic* Mr. S. H. Gurteen has produced a learned comparative study of the various types of the Arthurian legend (New York: G. P. Putnam's Sons, 1895, 437 p. $2.00).——The well-known young sculptor, William Ordway Partridge, writes of the history and technique of his art in *The Technique of Sculpture* (Boston: Ginn & Co., 1895, 118 p. $1.50).——The *Story of Vedic India*, by Mme. Ragozin, is a recent and very interesting addition to the Story of the Nations Series (New York: G. P. Putnam's Sons, 1895, 456 p. $1.50).——The great *Rome in the Middle Ages* of Gregorovius, well translated from the fourth German edition, is now accessible to English readers (New York: Macmillan & Co., 1894. Vols. I. and II. 505, 576 p. $3.75).——In Screiber's *Atlas of classical antiquities*, edited for English use by Professor Anderson of Sheffield, students of Greek and Roman life and art will find a mine of invaluable information and illustration (New York: Macmillan & Co., 1895, 200 p. $6.50).

IX

EDITORIAL

Those teachers who are watching what is being done in Europe, in the direction of philosophy and education, and particularly those who plan to spend their coming vacation abroad, will doubtless be glad to look over the following list of the courses on those subjects that are being given at the German universities during the summer semester that has just begun. The announcements for Leipsic are missing. The figures after the title of each course, when given, indicate the number of hours per week that it occupies. The authority for the list is the *Hochschul-Nachrichten.* Particularly noteworthy are the facts that the historical method of exposition largely prevails; that Kant receives more, rather than less, attention than he did a few years ago; that (except Kant) Spinoza and Leibniz are almost the only modern philosophers whose works are read in the courses; that Herbart is the only educationist who is so much as mentioned; that Hegel is greatly neglected; and that both education and experimental psychology appear far less frequently in the programmes of the German universities, than in those of the universities of America. Deussen's study of the Indian philosophy at Kiel is also an interesting indication of a new movement.

BERLIN—*Dilthey*, General history of philosophy, 5; Practical exercises in philosophy, 1. *Lasson*, General history of philosophy, 5. *Paulsen*, History of modern philosophy, 4; Academic study, 1; Psychology, 4; Practical exercises in philosophy, 1. *Simmel*, Kant's philosophy, 2; Social psychology, 1. *Schmekel*, History of philosophy in the nineteenth century, 3; Neoplatonism, 1. *Stumpf*, Logic and theory of knowledge, 4; Psychological seminar, 2. *Schumann*, Psychology, 4. *Dessoir*, Practical ethics, 2; Æsthetics and theory of art, 4; History of æsthetics, 1. *Döring*, System of pedagogics, 3.

BONN—*Bender*, Introduction to philosophy, 2; Ethics, 2; Philosophical seminar, 2. *Neuhäuser*, Logic, 5; The chief principles of pedagogics, 1. *Meyer*, Psychology, 4; Discussions on psychological problems, 1. *Wolff*, Psychology of the feelings and the will, with particular reference to æsthetics and ethics, 3. *Martius*, Exercises in experimental psychology, 2; History of philosophy from Kant to Hegel, 2; Philosophical seminar (Leibniz), 1. *Elter*, Philosophical discussions on Lange's *History of materialism*, 1.

BRESLAU—*Bäumker*, Logic, 4; Philosophy of Aristotle, 2; Practical exercises in Aristotelianism, 1. *Freudenthal*, Introduction to philosophy, 2; Exposition and criticism of the teachings of Spinoza, 2; Discussions on Leibniz's *Monadologie*. *Ebbinghaus*, Logic and theory of knowledge, 4; Kant's philosophy, 2; Exercises in experimental psychology, 2.

FREIBURG—*Riehl*, Problems of philosophy; Introduction to the philosophical sciences; The main tendencies of contemporary intellectual life; Kant's *Critique of Pure Reason*. *Rickert*, History of modern philosophy, from the Renaissance to Kant; Spinoza's *Ethics*. *Zürn*, General theory of teaching: Practical exercises in secondary school subjects.

GIESSEN—*Siebeck*, History of philosophy before Kant, 4; Reading and discussion of Descartes' *Meditations*, 2; Special studies for advanced students. *Schiller*, Theory of higher instruction, 2. *Groos*, Outlines of logic, 2; Reading and discussion of the philosophical poetry of Schiller, 1; Contemporary psychology in France and England, 1.

GÖTTINGEN—*Baumann*, Elements of ethics, 2; History of education, 2; Plato's *Symposium*, 1. *Müller*, Philosophy of nature, 4; Practical exercises in experimental psychology, 6. *Peipers*, Philosophy of religion, 4; Kant's critical philosophy, 1. *Rehnisch*, History of philosophy, 5; Philosophy of religion, 1.

GREIFSWALD—*Schuppe*, Psychology, 4; Philosophy of law, 3; History of philosophy, 2. *Rehmke*, Ethics and pedagogics, 4; Philosophy of religion, 3; Practical exercises in logic, 2.

HALLE—*Haym*, Critical history of German philosophy since Hegel, 2; Practical exercises in connection with Aristotle's *De anima*. *Erdmann*, Practical exercises in Kant's *Critique of Pure Reason*, 2; Psychology, 4; Elements of physiological psychology, 1; History of education, and of German school organization, since the beginning of the eighteenth century, 3. *Vaihinger*, Introduction to philosophy, 1; Logic, 4; Practical exercises in educational psychology in connection with the exposition of Herbart's pedagogical writings, 2. *Uphues*, Culture-ideals of various times and nations, 1; Logic, 1; History of philosophy, 5. *Husserl*, Ethics, 2; New researches in deductive logic, 1; Practical exercises in connection with Mill's *Logic*, 2.

HEIDELBERG—*Fischer*, History of Greek philosophy, 4. *Uhlig*, Disputed questions in higher education, 2; Pedagogical exercises and reports. *Caspari*, Psychology in its relations to theology, law, and philology, 2; Kant's criticism of knowledge, 2; Anthropologie, 2.

JENA—*Eucken*, History of philosophy since Kant; Philosophy of religion; Introduction to philosophy; Philosophical terminology; *Liebmann*, Metaphysics; History of ancient philosophy. *Rein*, General theory of teaching; Empirical psychology; Pedagogical seminary and practice-school. *Stoy*, Philosophy of education; Discussions on Herbart. *Erhardt*, Logic; History of modern philosophy since Kant; Psychology.

KIEL—*Glogau*, Logic and scientific method, 4; Main principles of æsthetics, 1; Logical exercises, 1. *Deussen*, General history of philosophy, from the beginnings in India and Greece, to the Christian era, 4; Explanation of passages from the Greek philosophers, 2; Interpretation of Sanskrit philosophical texts, 2. *Alberti*, Socrates and the Socratics, 1.

KÖNIGSBERG—*Thiele*, History of Greek and mediæval philosophy, 3; The immortality of the soul, 1. *Walter*, Logic and metaphysics, 4.

MÜNICH—*Von Müller*, History of higher education in Germany. *Von Hertling*, History of modern philosophy; Philosophical discussions. *Lipps*, Ethics and philosophy of law; Æsthetics; Psychological discussions; Practical exercises in psychology. *Guttler*, General history of philosophy. *Cornelius*, Psychology; Philosophical discussions based on Kant's *Critique of Pure Reason*.

ROSTOCK—*Von Stein*, Philosophy of religion, 3; History of modern philosophy, 4; Pedagogics, 3.

STRASSBURG—*Windelband*, Logic, 4; Philosophy of religion, 2; Seminar (Leibniz's *Nouveaux Essais*), 2. *Ziegler*, History of ancient and mediæval philosophy, 4; Schleiermacher, his life and teachings, 2; Seminar (Herbart's *Introduction to philosophy*), 2. *Hensel*, History of modern philosophy from the Renaissance to Kant, 4; Carlyle, 1.

TÜBINGEN—*Sigwart*, History of modern philosophy, 5; Aim and methods of the philosophical sciences, 2. *Pfleiderer*, Psychology, 5; The fundamental problems in a philosophical explanation of the world, 4. *Spitta*, Philosophical examination of the final basis of religious faith, 2; Introduction to philosophy and logic, 3; The place of philosophy in contemporary culture, 1; Practical exercises based on Kant's *Critique of Pure Reason*.

WÜRZBURG—*Grasberger*, History of education and instruction, especially in Germany, since the ninth century, 4. *Stölzle*, Logic and theory of knowledge, 4. *Kulpe*, History of modern philosophy, 4; Æsthetics, 2; Practical exercises based on Kant's *Prolegomena*.

The dignified appearance and solid contents of the last issue of the *Journal of Pedagogy*, published at Binghamton, N. Y., may well serve as an excuse for directing attention to the fact that that journal is not as well known as it should be to the teachers of the country. Its editorials are written in admirable temper, its reviews of books are honest and discriminating, and there is a happy absence of the vulgar personal items and the hysterical rant, ranging all the way from "The school must and shall be preserved!" to "Now is the time to subscribe!" that disfigure the pages of what we have previously designated as the "fly-by-night" portion of the educational press.

While speaking of educational journals, it may not be amiss to add that we are very frequently called upon to counsel teachers and school officers, concerning those journals that are likely to prove most useful to them. After long examination of the several publications we have some time since concluded —and now invariably advise teachers—that for most purposes no educational journal is half so valuable as the *Public School Journal*, edited by Dr. George P. Brown. Our reasons for this opinion are, that it is conducted in an earnest, helpful spirit; that it makes no concessions to the educational demagogues and mountebanks; that it continually sets the mastery of principles above the application of mere devices; and that it never for a moment loses sight of the philosophical and psychological foundations on which all sound educational theory and practice must rest. Its ideals are of the highest, and its methods beyond criticism. The secondary-school teacher will want the *School Review*, also a high-toned and clear-cut journal, for its secondary-school news and its special attention to the interests and needs of the schools of that grade. Mr. Vaile's *Intelligence* is independent and aggressive, and useful in many ways. Mr. Bardeen's *School Bulletin* is invaluable to New York teachers and valuable to all others. Its official information and its reports of educational meetings are unequaled. Then, nearly every State has a journal of its own that is of value to the teachers of that and adjoining States. Those published in Wisconsin, Iowa, Nebraska, Missouri, Kansas, Colorado, California, Virginia, and Pennsylvania, are particularly good. Where these State papers are not absolutely discreditable, they should always be cordially supported; for many of them exist with great difficulty, and as a rule their editors and conductors are sincere and earnest men, who are laboring to the full extent of their abilities and opportunities to promote the cause of sound education. The main fault of these journals (although it is not true of those just mentioned) is a tendency to deal in personalities and to print more or less artificial schoolroom devices, mistaking them for principles or methods. These have also been the grave faults, in the past, of the *School Journal*, which aims to be national in scope. Of late it has shown marked improvement, and if it would publish independent and unbiased book reviews, put to better purpose the space now too often given to the portraits and achievements of wholly insignificant persons, and free itself from petty jealousies and antagonisms, it would greatly extend the sphere of its usefulness.

But for much of the vast lot of stuff that circulates through the mails in the guise of educational journals, self respecting teachers can only entertain feelings of profound contempt.

An example of how many excellent people do their acting first and their thinking afterward, is to be found in the wide-spread support that was quickly obtained in New York for the utterly preposterous proposition to introduce military drill into the public schools. The movement was started by a few sentimentalists, thoughtlessly taken up by the organizations of war veterans, and then pushed forward by hundreds of well-meaning but unreflecting persons. The movement traveled so fast that it took the fomr of a bill "to provide and encourage military instruction in the public schools," and to make an appropriation of one hundred thousand dollars for that purpose.

No one who appreciates the distinction between the refined ethical sentiment of patriotism and the noisy jingoism to which many Americans are prone, could suppose for a moment that military instruction would promote true patriotism. And no one who knows the experience of the French schools could believe that military instruction is the most satisfactory form of physical training. Therefore, it was with genuine pleasure that we noted the unfavorable report of the New York Senate committee, to whom this bill was referred, as well as the following protest, which was signed by Felix Adler, Ernest Howard Crosby, W. D. Howells, Josephine Shaw Lowell, and Henry George:

> A bill now before the Legislature of this State, entitled, "An Act to provide and encourage military instruction in the public schools," is designed to further the movement for the general adoption in our public schools of a system of military drill, and appropriates one hundred thousand dollars for that purpose.
>
> Believing that the introduction of military tactics as part of the education of the youth of this country is unwise, unnecessary, and harmful, we protest against the passage of the McMahon bill, and ask all those opposing it to write to their representatives, urging them to vote against the measure.
>
> The attempt to encourage in America the growth of the spirit of militarism which has done so much to hamper the civilization and prosperity of Europe, is a menace to true freedom. The claim that military drill is required because of its beneficial physical effects is set aside by the fact that better results can be secured by a suitable system of calisthenics.

If reason rules, the bill will never be allowed to cumber the statute-book and distress the schools.

At a meeting of the Michigan Schoolmasters' Club, December 1, 1894, the need of greater unity and symmetry in the educational systems of the North Central States was discussed, and Principals Boone, Greeson, and Butts were chosen to join Presidents Angell, Adams, Harper, and Rogers in a call for a meeting to organize an association of colleges and schools. In response to this invitation, seven presidents of State universities, fourteen other representatives of colleges, and fourteen principals and superintendents of schools met at Northwestern University, March 29, and organized an association with the avowed object of establishing closer relations between the colleges and secondary schools of the ten States—Michigan, Ohio, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, Kansas, and Nebraska. The membership of the association was limited to such universities, colleges, and secondary schools as should be nominated by the executive committee and elected by the association, together with such individuals as should receive a similar election; each member, either institution or individual, being entitled to one vote on all questions. The equal representation of higher and secondary education was declared to be the policy of the association. All decisions of the association bearing upon the policy and management of colleges and schools were declared to be advisory rather than compulsory. The executive committee were given power to appoint committees for conference with other bodies. A resolution was adopted that the membership of the association should, for the present, be limited to 150. There was a general agreement that only schools preparing for college should be admitted.

The spring vacation was chosen as the time for the annual meeting, the time and place of other meetings to be fixed by the executive committee. On the invitation of President Harper, the University of Chicago was selected as the place for holding the next meeting. On the motion of President Bashford, the executive committee were requested to arrange for the discussion of the following questions at the next meeting: (1) What shall constitute a secondary school? (2) What shall constitute a college?

The following institutions and individuals, invited and represented at the meeting, were elected charter members of the association: University of Michigan, Albion College, Detroit and Grand Rapids High Schools, Michigan Military

Academy, Ohio State University, Oberlin College, Western Reserve University, Ohio Wesleyan University, Cleveland Central High School, Indiana University, De Pauw University, Wabash College, University of Wisconsin, Beloit College, Oshkosh State Normal School, University of Illinois, University of Chicago, Lake Forest University, Northwestern University, Illinois College, Illinois Wesleyan College, Chicago Manual Training School, Chicago Superintendent of High Schools, Morgan Park Academy, Northwestern Academy, Evanston High School, Peoria High School, Iowa State University, Cornell College, Cedar Rapids State Normal School, University of 'Missouri, Washington University (St. Louis).

The officers of the association for 1895–96 are as follows: President, James B. Angell, President of the University of Michigan; Secretary, Frederick L. Bliss, Principal of the Detroit High School; Treasurer, George N. Carman, Dean of the Morgan Park Academy; Executive Committee, A. F. Nightingale, Superintendent of High Schools, Chicago; C. A. Waldo, Professor of Mathematics, De Pauw University; Charles Kendall Adams, President of the Unversity of Wisconsin; Edward L. Harris, Principal of the Central High School, Cleveland.

There has thus come into existence a strong ally of the associations of colleges and secondary schools that already exist in New England and in the Middle States.

At the suggestion of Professor J. Mark Baldwin of Princeton, we reprint from *Science* the following statements regarding psychological questioning on the social sense, and ask the co-operation of teachers and parents in procuring replies to the several questions. All reports and inquiries should be addressed to Professor Baldwin at Princeton. All names and personal details will be treated as strictly confidential, except when special consent to the contrary is given:

All persons thrown intimately with children from about four years of age and later may serve psychologists by making detailed observations of what may be called "*chumming*" on the part of children and youth. By "chumming" is meant all instances of unusually close companionship voluntarily made, "platonic affection," personal influence one over another when this influence is limited more or less to one person, and when the relationship is stronger than ordinary, and is shown in any unusual or remarkable ways, such as bearing punishment for or with the other, moping or becoming very unsocial when separated. Cases of boys chumming with boys, and girls with girls, are especially valuable, and of older persons of the same sex. Similar observations are needed on cases of marked or unreasonable *antipathy* of one child to another.

The object of the inquiry is to get light on the growth of the child's social sense, what it is that attracts and repels him most in others. To this end observations on the following points are especially desired by the writer.

In every case of chumming or antipathy:

1. (*a*) Ask the child A why he loves or dislikes the child B. Take down the answers in full. (*b*) Repeat the question once a week for six weeks at least, if the phenomenon continues.

2. (*a*) Observe what A imitates most in B, and (*b*) whether he imitates the same actions or qualities in others besides B. (*c*) Note whether what A imitates in B is more prominent in B than in other persons.

3. (*a*) Observe how far A shares his toys, property, food, pleasures, etc., with B more than with other children. (*b*) Ask him why he gives his things to B. (*c*) Observe whether this keeps up if B does not reciprocate.

4. (*a*) Observe any cases in which A is willing to suffer for or with B. (*b*) Whether he will fight for him or defend him with words (give details of actions or words of defense).

5. Observe whether B figures largely in A's dreams (*a*) by noting any speech aloud when sleeping, and (*b*) by asking A frequently what he dreamed about the preceding night (being careful not to suggest B to him in any way).

6. State all the details of the relations between A and B, especially (*a*) Do they see each other oftener than they do others? (*b*) Do they sit together in school? (*c*) Do they room or sleep together? (*d*) Have they any common infirmity or fault (stammering, defective vision, stooping, deceitfulness, etc.)? (*e*) Have they ever been punished or disgraced together in school or at home? (*f*) Have they any common enemy (tyrant, teacher, school bully, etc.) whom they plan to circumvent?

7. Give (*a*) what is *known* (not mere impressions) of the disposition and state of health of each; (*b*) the length of time they have shown the liking or antipathy; (*c*) any known hereditary nervous tendencies.

8. In case of the breaking off of the liking or antipathy, (*a*) note all the facts which lead to it. (*b*) Question each child as to why he has ceased to like or dislike the other.

9. When the relation is mutual, make the same series of observations with the second child, B, as with the first, A (as given above).

10. Give the number of companions of each child reported on; (*a*) number of brothers and sisters, and their ages and places of residences, with or away from the child reported on; (*b*) amount of time per day which the child spends with other children in school and on the street, etc.

11. Make special note of any unusual occurrences or action, showing the affection or antipathy, which are not covered by this schedule.

All observations should cover as many of these inquiries as possible; yet observations of some of them only should still be sent in. *All observations should be carefully aranged under the headings of the schedule—i. e., by the numbers, letters, etc.*—in order to secure correct classification.

Superintendent Greenwood of Kansas City, Mo., who was elected treasurer of the National Educational Association at St. Paul in 1890, and unanimously re-elected at Toronto in 1891, Saratoga in 1892, and Asbury Park in 1894, has tendered his resignation, to take effect immediately. Mr. Greenwood has not been well during the past winter, and in June will sail for Europe for complete change and recreation. His incumbency of the office of treasurer has been a very laborious and a very successful one, and the Association owes him a debt of profound gratitude for his services. Mr. Greenwood's temporary successor is Assistant Superintendent I. C. McNeill of Kansas City, who has for some time assisted Mr. Greenwood in the administration of the office, and who has served the N. E. A. in many ways that are well known to the executive officers and highly appreciated by them.

All preparations for the Denver meeting of the N. E. A. have now been completed, and there can be no reasonable doubt that this meeting will be an unusually large and enthusiastic one. Reports received from State and city managers, and from those editors of educational journals who are in a position to judge, indicate a probable attendance of at least twelve thousand. Ohio, Illinois, Minnesota, Iowa, Missouri, Nebraska, Kansas, and Texas seem sure to send unprecedentedly large delegations, and every one of these States hopes to lead the others when the final returns are in. The South will be well represented, and it is not unlikely that from that section alone twenty-five hundred or three thousand teachers will journey to Denver.

The railroads are co-operating by all means in their power to make the meeting a success, and the excellent accommodations offered at greatly reduced rates, together with the many excursions and side-trips that are planned, ought to prove very attractive.

The programme of the general sessions, as already published, is so arranged as to fix the attention of the teachers on but one subject at each morning session. The three topics to be presented are: The co-ordination of studies in elementary education; The duty and opportunity of the schools in promoting patriotism and good citizenship; and, The instruction and improvement of teachers now at work in the schools. These are eminently practical subjects, and touch the immediate interests of every principal and teacher. At the evening sessions addresses will be delivered on educational topics of broad general interest. Particularly noteworthy will be the appearance of the venerable Professor Joseph Le Conte of the University of California, who will speak on "The effect of the doctrine of evolution upon educational theory and practice." The famous phrase, "Education according to Nature," will be the subject of an address by Chancellor W. H. Payne of the Peabody Normal College, Nashville, Tenn., and other well-known men will also speak at the evening sessions.

As this number of the REVIEW goes to press (April 22), the prospects for school reform in New York City are very bright. The proposed bill has passed the Assembly and is pending in the Senate. The ringsters who have so long dominated the schools are fighting desperately to retain their power and patronage, and by gross misrepresentation of the reform bill they are endeavoring to array the teachers against it. Should this effort prove successful, it will demonstrate clearly that politics has a foothold in the New York schools that is firmer by far than the reformers have ever asserted it to be.